

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:)
)
Implementation of Section 304 of the)
Telecommunications Act of 1996) CS Docket No. 97-80
)
Commercial Availability of)
Navigation Devices)

SECOND REPORT AND ORDER

Adopted: March 17, 2005

Released: March 17, 2005

By the Commission: Commissioner Adelstein issuing a separate statement.

I. INTRODUCTION

1. We report herein our reassessment of the state of the navigation device market, as required by the Commission’s April 2003 order extending the date for phase-out of integrated set-top boxes until July 1, 2006.¹ In the *Extension Order*, we stated that the Commission would complete a reassessment of the navigation device market and determine whether the designated time frame remains appropriate or whether the ban on integrated devices is no longer necessary.² Given the equipment ordering and manufacturing cycles involved, it is necessary at this point to provide guidance as to the Commission’s expectations with respect to the 2006 date. The cable and consumer electronics industries have made, and continue to make, significant progress in the development of technical standards in this area. As a result, the commercial market for navigation devices used in conjunction with the distribution of digital video programming has expanded and consumers now have increased choice among navigation devices.

2. Nevertheless, based on the record, we are not persuaded that the current level of competition in the navigation device market is sufficient to assure the commercial availability of navigation devices to consumers from sources other than multichannel video programming distributors (“MVPDs”). We continue to believe that common reliance by cable operators on the same security technology and conditional access interface that consumer electronics manufacturers must employ in developing competitive navigation devices will help attain the goals of Section 629 of the Act. Thus, we will not eliminate the requirement that cable operators separate security and non-security functions in the devices they provide on a leased or sale basis.

3. We recognize, however, that the development of set-top boxes and other devices utilizing downloadable security is likely to facilitate a competitive navigation device market, aid in the interoperability of a variety of digital devices, and thereby further the DTV transition. We also recognize that software-oriented conditional access solutions currently under development may allow common

¹ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 18 FCC Rcd 7924 (2003) (“*Extension Order*”).

² *Id.* at 7926.

reliance by cable operators and consumer electronics manufacturers on an identical security function without the potentially costly physical separation of the conditional access element. We will, therefore, afford cable operators a limited extension of the integration ban to determine whether it is possible to develop and deploy a downloadable security function that will permit them to comply with our rules without incurring the costs associated with the physical separation approach. Accordingly, we hereby extend the deadline for phase-out of integrated set-top boxes until July 1, 2007 and require the cable industry to report to us no later than December 1, 2005 regarding the feasibility of a downloadable security solution. In addition, NCTA and CEA shall file joint status reports and hold joint status meetings with the Commission on or before August 1, 2005 and every 60 days thereafter on progress in bi-directional talks and a software-based conditional access agreement. We also find that, to the extent a downloadable security or similar software-oriented solution provides for common reliance on an identical security technology and conditional access interface without physical separation of the security element, such technology complies with Section 76.1204(a)(1) of our rules.

4. We believe this additional time, in addition to allowing for the testing necessary to determine whether a software conditional access regime will produce the desired result, will also provide for progress in bidirectional negotiations, which have been disappointing to date. In the meantime, we are concerned about anecdotal evidence relating to the cable industry's current level of support for unidirectional CableCARDs and expect that performance to improve over the coming months to meet consumer expectations as they purchase CableCARD-enabled devices. To this end, we direct the six largest cable operators to file on or before August 1, 2005, and every 90 days thereafter, status reports on CableCARD deployment and support, including efforts to develop and deploy a multistream CableCARD for widespread use in digital devices available commercially.

II. BACKGROUND

5. Section 629 of the Communications Act of 1934, as amended (the "Act"), directs the Commission to adopt regulations to assure the commercial availability of navigation devices equipment³ used by consumers to access services from MVPDs.⁴ Specifically, Section 629, which is titled "Competitive Availability of Navigation Devices," directs the Commission to:

adopt regulations to assure the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems, from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor.⁵

6. In an effort to meet our statutory requirement to make navigation devices commercially available without jeopardizing the security of video programming services, the Commission required MVPDs to make available by July 1, 2000 a security element separate from the basic navigation device (the "host device").⁶ The separation of the security element from the host device permits unaffiliated

³ Navigation devices are defined for purposes of this proceeding as "converter boxes, interactive equipment, and other equipment used by consumers within their premises to receive multichannel video programming and other services offered over multichannel video programming systems." 47 C.F.R. § 76.1201(c).

⁴ 47 U.S.C. § 549.

⁵ *Id.*

⁶ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 13 FCC Rcd 14775, 14806 (1998) ("First Report and Order"); 47 C.F.R. § 76.1204(a)(1). *See also General Instrument Corp. v. FCC*, 213 F.3d 724 (D.C. Cir. 2000) (holding that the Commission's ban on integrated

manufacturers, retailers, and other vendors to commercially market host devices while allowing MVPDs to retain control over their system security. The Commission found that separating out the security function would generally enhance the portability of the equipment by increasing its market base, facilitating low-cost volume production and empowering new functionality and services.⁷ MVPDs were permitted to continue providing integrated equipment until January 1, 2005, so long as modular security components, known as point-of-deployment modules (“PODs”),⁸ were also made available for use with host devices obtained through retail outlets.⁹

7. In the *First Report and Order*, the Commission also adopted a January 1, 2005 deadline for MVPDs to cease deploying new navigation devices that perform both conditional access functions and other functions in a single integrated device.¹⁰ The requirement that MVPD-leased equipment have separable security functions was intended to eliminate impediments discouraging customers from switching to devices available through retail outlets, thereby promoting competition in the marketplace.¹¹ The Commission found that any cost savings that might exist from the offering of integrated devices likely would be offset by manufacturing gains from an open, competitive market.¹² We concluded that achievement of the express mandate of Section 629—to assure that consumers have the ability to obtain navigation devices from manufacturers, retailers, and other vendors not affiliated with MVPDs—required prohibition of MVPDs providing security and non-security functionality in a single device.¹³

8. The Commission subsequently issued a *Further Notice of Proposed Rulemaking and Declaratory Ruling* that sought comment on the effectiveness of the Commission’s navigation device rules, including the 2005 prohibition on integrated devices.¹⁴ In the *Further Notice*, we sought comment, *inter alia*, on whether the 2005 date for the phase-out of integrated boxes remained appropriate, what incentives the requirement created for the development of a commercial retail market for navigation devices, and the economic impacts and costs associated with the requirement.¹⁵ The Commission also sought comment on the alternative of permitting MVPD or retail distribution of integrated devices after January 1, 2005 if integrated devices were also commercially available at that time.¹⁶ In response to the *Further Notice*, the cable industry and manufacturers providing set-top boxes to cable operators generally urged that the 2005 deadline should be eliminated in favor of the continued offering of integrated navigation devices for lease to consumers.¹⁷ Other equipment manufacturing and retail interests urged

devices is premised on a reasonable interpretation of Section 629 of the Act).

⁷ *First Report and Order*, 13 FCC Rcd at 14793.

⁸ PODs are referred to by the cable and consumer electronics industries for marketing purposes as “CableCARDS.” See Comments of National Cable & Telecommunications Association, n.4. Because our rules refer to these security modules as PODs, we refer to them herein interchangeably, depending on context.

⁹ *First Report and Order*, 13 FCC Rcd at 14793.

¹⁰ *Id.*

¹¹ *Id.* at 14803.

¹² *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 14 FCC Rcd 7596, 7610 (1999) (“*Reconsideration Order*”).

¹³ *Id.* at 7607.

¹⁴ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 15 FCC Rcd 18199, 18203 (2000) (“*Further Notice*”).

¹⁵ *Id.* at 18202-03.

¹⁶ *Id.* at 18203.

¹⁷ See, e.g., NCTA Comments (2000) at 35-41; Motorola Comments (2000) at 12-20; Scientific Atlanta Comments (2000) at 3.

that the date should be maintained or advanced to ensure the timely development of a retail market in host devices.¹⁸

9. Before the Commission acted on the *Further Notice*, the cable and consumer electronics industries adopted a memorandum of understanding that reflected a compromise agreement to integrate the navigation functionality of set-top boxes into television receivers in order to spur the digital television (“DTV”) transition.¹⁹ In January 2003, the Commission issued a *Further Notice of Proposed Rulemaking* seeking public comment on the MOU and the proposed “plug and play” cable compatibility standard that would allow consumers to directly attach their “digital cable ready” television receivers to cable systems and, with the use of a POD, receive one-way cable television services without the need for an external navigation device.²⁰

10. In April 2003, while the comment cycle on the MOU remained open, the Commission extended the deadline concerning the prohibition on integrated devices until July 1, 2006.²¹ In the *Extension Order*, we stated that the cable and consumer electronics industries had made significant progress in developing technical standards in this area, but that the commercial market for navigation devices used in conjunction with the distribution of digital video programming remained in its infancy.²² Accordingly, the Commission concluded that a limited, eighteen-month deferral of the January 1, 2005 deadline was consistent with the ultimate objectives of this proceeding and with the statutory directive of Section 629.²³ The Commission noted the evolving nature of technical specifications relating to navigation devices and the ongoing notice and comment cycle on the *FNPRM* seeking public comment on the MOU regarding unidirectional digital cable products.²⁴ The Commission also requested the cable and consumer electronics industries to provide status reports on their negotiations for bidirectional digital cable receivers and products at 90, 180, and 270-day intervals following release of the *Extension Order*.²⁵ Following submission of the last status report to the Commission, the public was afforded 30 days to

¹⁸ See, e.g., Consumer Electronics Association (“CEA”) Comments at 16-25; Consumer Electronics Retailers Coalition (“CERC”) Comments at 6-18.

¹⁹ See Letter from Carl E. Vogel, President and CEO, Charter Communications, *et al.*, to Michael K. Powell, Chairman, FCC (Dec. 19, 2002), *Memorandum of Understanding Among Cable MSOs and Consumer Electronics Manufacturers* (signed by Charter Communications, Inc., Comcast Cable Communications, Inc., Cox Communications, Inc., Time Warner Cable, CSC Holdings, Inc., Insight Communications Company, L.P., Cable One, Inc., Advance/Newhouse Communications, Hitachi America, Ltd., JVC Americas Corp., Mitsubishi Digital Electronics America, Inc., Matsushita Electric Corp. of America (Panasonic), Philips Consumer Electronics North America, Pioneer North America, Inc., Runco International, Inc., Samsung Electronics Corporation, Sharp Electronics Corporation, Sony Electronics, Inc., Thomson, Toshiba America Consumer Electronics, Inc., Yamaha Electronics Corporation, USA, and Zenith Electronics Corporation) (“MOU”).

²⁰ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices and Compatibility Between Cable Systems and Consumer Electronics Equipment*, 18 FCC Rcd 518 (2003) (“*FNPRM*”).

²¹ *Extension Order*, 18 FCC Rcd at 7926.

²² *Id.* at 7925.

²³ *Id.* at 7926. As a result of the *Extension Order*, Section 76.1204 of the Commission’s rules, titled “Availability of Equipment Performing Conditional Access or Security Functions,” now provides, in pertinent part, that “[c]ommencing July 1, 2006, no [MVPD] subject to this section shall place in service new navigation devices for sale, lease, or use that perform both conditional access and other functions in a single integrated device.” 47 C.F.R. § 76.1204(a)(1).

²⁴ *Extension Order*, 18 FCC Rcd at 7926.

²⁵ *Id.* NCTA and CEA submitted status reports on the bidirectional negotiations on July 24, 2003, October 21, 2003, and January 21, 2004.

submit comments on the status reports and whether any further changes in the phase-out date for integrated devices were warranted.

11. In October 2003, before the comment cycle on the status reports and phase-out date commenced, the Commission issued a *Second Report and Order and Second Further Notice of Proposed Rulemaking*, adopting the technical rules proposed as part of the MOU with certain modifications.²⁶ The plug and play rules adopted in the *Second Report and Order* included a requirement that no later than July 1, 2004, all digital cable systems must support unidirectional digital cable products through the provisioning of PODs and conformance with the technical standards governing POD-Host interfaces and the POD copy protection system.²⁷ Petitions for reconsideration of the *Second Report and Order* are currently pending before the Commission.

12. As required by the *Extension Order*, this report represents our findings regarding the current state of the market for navigation devices based upon the record established in this proceeding.²⁸

III. STATE OF THE NAVIGATION DEVICE MARKET

A. Comments

13. In conducting a full assessment of the navigation device market, we have considered not only those comments filed in response to the *Extension Order*, but also pertinent comments filed in response to the 2000 *Further Notice*. In the *Further Notice*, the Commission sought comment on the existence of any obstacles or barriers preventing or deterring the development of a retail market for navigation devices, and whether sufficient incentives existed to permit development of such a retail market.²⁹ The *Further Notice* also sought comment on the effect that provision of integrated equipment by cable operators has had on achieving a competitive market for commercially available navigation devices.³⁰ The *Extension Order* sought more specific comment on whether any further changes in the phase-out date for integrated devices are warranted.³¹ In response, the cable industry argues that circumstances have changed dramatically since the prohibition on integrated devices was adopted in 1998, that the rationales for the ban no longer exist, and that the Commission accordingly should eliminate the rule.³² Alternatively, the cable industry and its equipment suppliers argue that the Commission should further extend the phase-out date for integrated devices.³³ Recently, Microsoft, reversing an earlier stance that the Commission retain the July 1, 2006 deadline, filed jointly with Comcast and Time Warner requesting the Commission to defer the phase-out date for integrated devices “for some period ranging from 6 to 18 months,” to, in part, “allow approximately one year for the

²⁶*Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Device and Compatibility Between Cable Systems and Consumer Electronics Equipment*, 18 FCC Rcd 20885, 20891 (2003) (“*Second Report and Order*”).

²⁷*Id.* at 20895.

²⁸ A list of parties filing comments and reply comments is set forth in Appendix A.

²⁹ *Further Notice*, 15 FCC Rcd at 18202.

³⁰ *Id.*

³¹ *Extension Order*, 18 FCC Rcd at 7926.

³² See NCTA Comments at 7-13.

³³ See, e.g., Letter from Paul Glist, Counsel for Adelphia Communications, to Marlene Dortch, Secretary, Federal Communications Commission (Dec. 16, 2004); Letter from James Casserly, Counsel for Comcast Corporation, to Marlene Dortch, Secretary, Federal Communications Commission (Dec. 15, 2004); Letter from Jonathan Friedman, Counsel for Motorola, Inc., to Marlene Dortch, Secretary, Federal Communications Commission (Dec. 8, 2004).

development of a new agreement for FCC consideration related to the retail availability of fully-functional digital cable products.”³⁴ Consumer electronics manufacturers and retailers, as well as consumer groups, support the retention of the July 1, 2006 deadline and contend that nothing has changed since the adoption of the *Extension Order* to justify eliminating or further postponing the deadline.³⁵

14. *Retail Initiative.* In the *Further Notice*, the Commission sought comment regarding whether to continue to permit MVPD or retail distribution of integrated boxes if integrated boxes also are commercially available.³⁶ In response, NCTA asserted that the goals of Section 629 could be met by a plan that would allow integrated digital set-top boxes to be made available through independent retail outlets.³⁷ AT&T contended that increased competition in the MVPD market naturally spurred cable operators to pursue retail distribution of their digital equipment and services.³⁸ However, Motorola and Scientific Atlanta stated that they had attempted to negotiate deals with retailers to purchase and market set-top boxes, but received little to no retailer interest.³⁹ CERC, representing retailers, argued that, whether sold at retail or in any other manner, integrated devices would continue to allow MVPDs to place obstacles or conditions on competitive entry.⁴⁰ Accordingly, CERC disputed NCTA’s contention that the cable operators’ plan to sell integrated boxes in retail stores would alleviate the Commission’s concerns and meet the intent of the statute.⁴¹ The record establishes that the retail initiative for integrated set-top boxes has not been successful.⁴² Notwithstanding the results of the initiative, NCTA now asserts that the cable industry’s 2001 retail initiative for integrated boxes changed the factual basis underlying the ban, and that cable’s willingness to allow retail sale of set-top boxes demonstrates the industry’s commitment to retail availability.⁴³ CEA and CERC (collectively, the “CE parties”) argue that, contrary to NCTA’s assertion, the cable industry’s retail initiative actually underscores the need for MSO reliance on PODs.⁴⁴

³⁴ Letter from Paula Boyd, Regulatory Counsel for Microsoft Corporation, James R. Coltharp, Chief Policy Advisor, FCC & Regulatory Policy for Comcast Corporation and Stephen N. Teplitz, Vice President & Associate General Counsel to Time Warner Inc., to Marlene Dortch, Secretary, Federal Communications Commission (Feb. 24, 2005) (“Microsoft/Comcast/Time Warner *Ex Parte*”).

³⁵ See, e.g., CEA/CERC Comments at 6-9; Letter from Lawrence Sidman, Counsel for Thomson, to Marlene Dortch, Secretary, Federal Communications Commission (Oct. 28, 2004) (“Thomson/Mitsubishi *Ex Parte*”); Letter from Kenneth DeGraff, Policy Advocate, Consumers Union, *et al.*, to the Honorable Michael K. Powell, Chairman, Federal Communications Commission (Jan. 19, 2005).

³⁶ *Further Notice*, 15 FCC Rcd at 18203.

³⁷ Letter from Robert Sachs, President & CEO, National Cable & Telecommunications Association, to the Honorable Michael K. Powell, Chairman, Federal Communications Commission (Oct. 10, 2001) at 2. NCTA member cable operators committed to take the following actions: (i) encouraging set-top box suppliers to make available to retailers the same boxes with embedded security the manufacturers supply to cable operators; (ii) provisioning and supporting set-top boxes obtained at retail; and (iii) establishing a program to buy back a set-top box purchased at retail if the subscriber moves outside of the cable operator’s franchise area. *Id.*

³⁸ AT&T Comments (2000) at 4. AT&T’s cable unit has merged with Comcast since AT&T’s comments in response to the *Further Notice* were filed.

³⁹ Motorola Comments (2000) at 10.

⁴⁰ CERC Comments (2000) at 15.

⁴¹ CERC Reply Comments (2000) at 12.

⁴² See, e.g., NCTA Comments at 8 (stating that the results of the initiative have been “disappointing—presumably because of economic factors”).

⁴³ *Id.* at 7-8. NCTA argues that the ban was adopted when the debate over the development of a retail market for navigation devices was marked by a variety of unknown factors, including the level of cable operator commitment to retail availability. *Id.* at 3-4.

⁴⁴ CE Reply Comments at 3.

According to the CE parties, the aim of cable's retail initiative was to avoid POD reliance by setting rules for cable operators who might furnish non-POD-reliant products to retailers, and thus the initiative would have provided less, not more, reason for cable operators to plan products and services that rely on a common security interface for competitive products.⁴⁵ The CE parties further assert that it is difficult to ascribe any real-world effect to the retail initiative because commercial ties between retailers and cable operators have been forged on an *ad hoc* basis.⁴⁶ This is consistent with NCTA's description of the results of the retail initiative. Additionally, the CE parties state that there is no record of cable operators declaring that the commercialization of integrated security techniques is open to competitive manufacturers and retailers on the same or similar basis as it is to cable operators and their suppliers.⁴⁷ Thus, according to the CE parties, it is a "stretch" to argue that the retail initiative signified any change that would justify elimination of the prohibition on the sale or lease of integrated devices.⁴⁸

15. *One-Way Plug and Play.* In the *Extension Order*, the Commission noted the then-ongoing notice and comment cycle relating to the one-way FNPRM and the evolving nature of technical specifications relating to navigation devices.⁴⁹ Since the Commission issued the *Extension Order*, the unidirectional plug and play rules have been adopted and become effective.⁵⁰ In October 2003, CableLabs released the DFAST license, which provides manufacturers with the intellectual property necessary to build plug and play devices that will accommodate a POD.⁵¹ The cable and consumer electronics industries finalized the joint test suite for unidirectional digital cable products and posted testing-related documents on the CableLabs website.⁵² NCTA has created a set of common consumer education materials to inform cable customers of the capabilities of unidirectional digital cable products, and cable system representatives have conferred with NCTA and CableLabs to develop consistent answers for customer support.⁵³ The cable and consumer electronics industries also developed a whitepaper to serve as common guide for operational issues, produced inserts for inclusion with packaging materials of new unidirectional digital cable products, and completed work on consumer-friendly logos and acronyms for "digital cable ready" devices.⁵⁴

16. NCTA contends that the MOU and the Commission's implementing rules undermine any remaining rationales for the prohibition on integrated devices.⁵⁵ NCTA asserts that the Commission's rules implementing the MOU should "eliminate concerns that unless cable operators deploy POD-enabled equipment, there can be no assurance cable operators will make commercially available, POD-enabled devices work on their systems."⁵⁶ According to NCTA, the prohibition on integrated devices is not necessary to ensure cable operator reliance on PODs because cable operators are required by law to support PODs through certain technical requirements, to maintain an adequate supply of PODs, and to

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Extension Order*, 18 FCC Rcd at 7926.

⁵⁰ *Second Report and Order*, 18 FCC Rcd at 20885.

⁵¹ NCTA Status Report (Oct. 23, 2003) at 1.

⁵² *Id.* at 2.

⁵³ *Id.*

⁵⁴ NCTA Status Report (Jan. 21, 2004) at 4.

⁵⁵ NCTA Comments at 8-9; NCTA Reply Comments at 7.

⁵⁶ NCTA Comments at 8.

ensure convenient access to such PODs for their customers.⁵⁷ To illustrate the impact of the unidirectional plug and play rules, NCTA states that adoption of the rules has led to certification, verification, or self-verification of more than 140 new DTV models from 11 different independent manufacturers through the unidirectional digital cable product test suite for digital cable ready televisions.⁵⁸ The CE parties agree that there has been substantial progress in this area, but argue that such progress does not alleviate the need for the ban because reliance on a common security interface is essential for continued progress in the future.⁵⁹ Specifically, CE contends that every way in which a competitive product must differ from cable operator-provided products retards competition.⁶⁰ Like NCTA, the CE parties state that significant time and attention have been devoted by the cable and consumer electronics industries to testing and other one-way implementation issues.⁶¹ The CE parties agree with NCTA that the offering of the DFAST license is a landmark event and accomplishment for the parties.⁶² However, CEA notes that certain implementation issues not resolved in the plug and play agreement, such as down-resolution capabilities, have been the subject of substantial discussion and some disagreement between the parties.⁶³

17. *Two-Way Plug and Play.* The Commission noted in the *Extension Order* that the cable and consumer electronic industries were “in the midst of negotiations” on specifications for bidirectional digital cable products.⁶⁴ Accordingly, the Commission requested that the parties file status reports on the bidirectional negotiations at 90, 180, and 270-day intervals following release of the *Extension Order*.⁶⁵ The first status report was filed jointly by NCTA and CEA on July 24, 2003. In that report, NCTA and CEA stated that the parties have been meeting at least monthly and that the meetings typically are attended by multiple representatives of each major manufacturer and MSO.⁶⁶ The initial discussions involved organizing work into the areas of consumer experience, resource sharing and implementation, operational issues and consumer information, regulatory issues and agreements, and certification and testing.⁶⁷ At that time, the parties were nearing agreement on specifications for resources in devices for the OpenCable Applications Platform (“OCAP”), the basis for interactive functionality in two-way devices, and had agreed on issues surrounding the need for bidirectional devices to support new digital control channels.⁶⁸ The OCAP test suite and environment was far along in development by CableLabs

⁵⁷ *Id.* at 8-9.

⁵⁸ Letter from Neal Goldberg, General Counsel to NCTA, to Jonathan Cody, Legal Advisor to Chairman Michael K. Powell, at 7 (Jan. 11, 2005). NCTA also states that CableLabs made extraordinary efforts to meet manufacturers’ insistence on speed by, among other things, creating shortcuts through the testing process, cutting back on interoperability tests, changing the handling of security certificates, allowing manufacturers to substitute in-house testing plans for the joint test suite, rescheduling test waves to meet manufacturers’ development and “time to market” schedules, providing internal appeals processes to minimize the need for re-testing, and allowing self-certification of all subsequent DTVs. NCTA *Ex Parte* Presentation (Oct. 19, 2004) at 2. MSOs also provided testing in their labs and at their headends and have made other efforts to support unidirectional digital cable products. *Id.*

⁵⁹ CE Comments at 5.

⁶⁰ *Id.*

⁶¹ *Id.* at 6.

⁶² *Id.*

⁶³ CEA Status Report (Oct. 23, 2003).

⁶⁴ *Extension Order*, 18 FCC Rcd at 7926.

⁶⁵ *Id.*

⁶⁶ NCTA/CEA Status Report (Jul. 24, 2003) at 3.

⁶⁷ *Id.*

⁶⁸ *Id.* at 3-4.

and the parties were cooperating regarding the harmonization of the broadcast Digital Applications Software Environment (“DASE”) and OCAP standards necessary to enable manufacture of devices that can receive interactive content from both digital cable and over-the-air digital broadcasting.⁶⁹ Finally, discussions regarding the advanced multistream POD (also known as the “multistream CableCARD”) were proceeding, with proposed interface specifications to be completed by August 2003 and an expectation of SCTE standardization thereafter.⁷⁰

18. On October 23, 2003, following release of the *Second Report and Order*, NCTA and CEA filed separate status reports regarding the bidirectional negotiations. NCTA stated that the parties had been engaged in negotiations regarding implementation of the unidirectional MOU and the Commission’s rules, which diverted attention from the bidirectional issues.⁷¹ NCTA stated that the multistream POD specification had been completed and published and that the OCAP test suite and environment continued to be far along in development by CableLabs.⁷² CEA stated in its second status report that attention had been focused on implementation of the one-way MOU, but that it expected that as talks resumed, the parties would give attention to other potentially affected parties in the navigation device market.⁷³

19. NCTA and CEA also filed their third status reports separately on January 21, 2004. NCTA stated that the cable and consumer electronics industries were now prepared to engage fully in discussions to reach agreement on two-way digital cable ready devices and that the cable and consumer electronics industries were reaching out to consult with third parties.⁷⁴ CEA stated that bidirectional negotiations had advanced through the first half of 2003, but that ultimately the parties had focused their attention on testing issues related to unidirectional devices.⁷⁵ CEA said that the parties were now moving forward expeditiously to complete the bidirectional negotiations, including consultations with interested or concerned third parties.⁷⁶ According to CEA, the necessary objectives in the bidirectional negotiations include establishing minimum technical requirements for bidirectional operation, creating a level playing field for competition between competitively-sourced and cable operator-sourced devices, and avoiding creation of any disadvantage for the operation of device features or functions on home or external networks different from or competitive with programs or services provided by a cable network.⁷⁷ At that time, CEA stated that the discussions were proceeding earnestly, but that it was necessary to consult with many parties.⁷⁸

20. As of October 19, 2004, there have been over 30 meetings between the cable and consumer electronics industries to narrow topics and reconcile differences in approaches.⁷⁹ In addition,

⁶⁹ *Id.* at 4.

⁷⁰ *Id.*

⁷¹ NCTA Status Report (Oct. 23, 2003) at 3.

⁷² *Id.*

⁷³ CEA Status Report (Oct. 23, 2003) at 5-6. In the *Second Report and Order*, the Commission expressed its hope that the cable and consumer electronics industries would consult with other interested parties and affected industries in pursuing a bidirectional agreement. *Second Report and Order*, 18 FCC Rcd at 20890 n.22.

⁷⁴ NCTA Status Report (Jan. 21, 2004) at 4-5.

⁷⁵ CEA Status Report (Jan. 21, 2004) at 2.

⁷⁶ *Id.*

⁷⁷ *Id.* at 3.

⁷⁸ *Id.*

⁷⁹ NCTA *Ex Parte* Presentation (Oct. 19, 2004) at 4.

other potentially affected parties have participated in large group discussions.⁸⁰ NCTA asserts that because significant progress has been made in the bidirectional negotiations, to the extent the prohibition on integrated devices was maintained in order to “hold cable’s feet to the fire,” it is no longer necessary.⁸¹ Moreover, NCTA argues that the prohibition is likely to impede the two-way talks because it will divert attention and resources away from the negotiations to tasks necessary to comply with the prohibition.⁸² However, as further discussed below, manufacturers believe that retention of the ban is critical to the development and deployment of two-way devices.⁸³

21. *Incentives For Cable Operator Support and Development of PODs.* The CE parties claim that the common security interface and its components must be regarded by the cable industry as essential in order for the POD and POD-Host interface to be developed with commensurate scope, scale, creativity, and investment.⁸⁴ CE argues that POD design will not remain static, and that as new PODs need to be offered to deal with multiple streams and different connection formats, every innovation will require design, development, and testing.⁸⁵ The CE parties contend that if this work is not done by companies also relying on PODs, it will not receive the necessary resources or priority.⁸⁶ As an example, TiVo cites the development of the multistream POD, for which a specification was developed in 2003.⁸⁷ TiVo claims that cable operators have had no business reason to hasten the development of the multistream POD because they do not need to use multistream PODs in their own products.⁸⁸ TiVo also asserts that if cable operators are not required to use the CableCARD themselves, they will have no economic incentive to ensure that CableCARD devices will work on their systems.⁸⁹ In fact, TiVo

⁸⁰ *Id.*

⁸¹ NCTA Comments at 14.

⁸² NCTA *Ex Parte* Presentation (Oct. 19, 2004) at 4; *see* Microsoft/Comcast/Time Warner *Ex Parte*, at 2.

⁸³ *See* Letter from Henry Goldberg, Counsel for TiVo, Inc., to Marlene Dortch, Secretary, Federal Communications Commission (Oct. 21, 2004), attaching Reply Comments of TiVo Inc. in response to *Notice of Inquiry* in Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming at 2 (“TiVo Video Competition Reply Comments”).

⁸⁴ CE Comments at 7.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ Letter from Matthew Zinn, Vice President, TiVo Inc., to W. Kenneth Ferree, Chief, Media Bureau (Dec. 22, 2004) at 2. TiVo states that the multistream POD is not expected to be available until 2006, which TiVo notes coincides with the timeframe in which cable operators will be required to rely on PODs, assuming retention of the July 1, 2006 deadline. *Id.*

⁸⁸ *Id.* NCTA argues that the development and deployment of the multistream POD is not required by the MOU or the Commission’s rules—and was not raised in the one-way plug and play negotiations—but that the cable industry nevertheless conceived and published the specifications for a multistream POD. Letter from Neal Goldberg, General Counsel, NCTA, to W. Kenneth Ferree, Chief, Media Bureau (Dec. 20, 2004) at 6-7. The cable industry states that cable operators have placed orders for the multistream POD and that work on the test tool and related Host-side engineering is “proceeding apace.” Letter from Paul Glist, Cole, Raywid & Braverman, L.L.P., to Marlene Dortch, Secretary, Federal Communications Commission (Dec. 22, 2004) at 3. TiVo responds that a delay in deployment of the multistream POD is not justified by the lack of a Commission rule requiring such deployment. Letter from Matthew Zinn, Vice President, TiVo Inc., to W. Kenneth Ferree, Chief, Media Bureau (Dec. 22, 2004) at 2. TiVo argues that commercial availability of navigation devices will never be achieved if the cable industry does only what it is required to do by the Commission, and that the delay demonstrates the misalignment of incentives between the cable industry and the CE industry in the absence of common reliance on an identical security function. *Id.*

⁸⁹ TiVo Video Competition Reply Comments at 1.

suggests that there may be a disincentive for cable operators to make CableCARDs work properly in order to steer customers away from the CableCARD toward a cable operator-provided set-top box.⁹⁰ Thomson and Mitsubishi argue that the necessary level of commercial and user confidence in CableCARD-reliant products depends on the cable industry having the same level of commitment to such products as consumer electronics manufacturers.⁹¹ However, NCTA argues that cable operators have every incentive, including retention of their customers, to make commercially-available, POD-enabled products work.⁹²

22. *Innovation in Competitive Navigation Device Products.* According to TiVo, it will be nearly impossible for consumer electronics companies to overcome their existing disadvantage versus cable with respect to competitive navigation device products if cable operators are not also required to use CableCARDs in their devices.⁹³ Specifically, the CE parties argue that if cable operators are permitted to introduce future programming and service innovations that are not POD-reliant and not available in competitive products, manufacturers will be forced to continually play “catch-up” in order to achieve interactive capabilities that cable operator-provided devices already enjoy.⁹⁴ The CE parties and TiVo argue that every way in which a competitive product must differ from cable operator-provided products impedes competition.⁹⁵ TiVo asserts that knowing that cable operators will no longer be able to offer integrated devices would enable TiVo and other consumer electronics companies to develop and deploy set-top boxes bringing innovative new services to consumers with the confidence that such products will have a fair chance to succeed in the marketplace.⁹⁶ Conversely, NCTA argues that maintaining the prohibition on integrated devices would stifle innovation in digital cable services and digital cable ready equipment.⁹⁷ NCTA argues that CE’s interpretation of Section 629 and the Commission’s rules regarding commercial availability would mean that development of all cable products and services must await development and deployment of identical products and services by consumer electronics manufacturers before consumers may obtain the benefit of cable’s innovations.⁹⁸ NCTA contends that such a result would lock the various industry players into a scenario where there is no product differentiation and all players must simultaneously roll out the same functionality in products and services—an outcome that is not consistent with the goals of Section 629 or the DTV transition.⁹⁹

23. *Subscriber Choice and Costs.* NCTA asserts that the integration ban would limit subscriber choice and unnecessarily increase costs to cable operators and consumers. According to NCTA, a POD-Host combination would cost cable operators an estimated \$72 to \$93 more than an

⁹⁰ *Id.* at 3.

⁹¹ Thomson/Mitsubishi *Ex Parte* at 2.

⁹² NCTA Comments at 10-13.

⁹³ TiVo Video Competition Reply Comments at 1.

⁹⁴ CE Comments at 2.

⁹⁵ *Id.* at 5; TiVo Video Competition Reply Comments at 2.

⁹⁶ TiVo Video Competition Reply Comments at 2. TiVo states that if the Commission retains the July 1, 2006 deadline, TiVo and others are committed to deploying competitive CableCARD-enabled devices in 2006 or earlier. Letter from Michael Ramsay, Chief Executive Officer, TiVo Inc., to Michael Powell, Chairman, Federal Communications Commission (Dec. 22, 2004) at 2. TiVo further states that if the deadline is postponed, the impact on CE will be the same as eliminating the ban, and that in such case TiVo will have difficulty justifying continued investment in a CableCARD product line. *Id.*; *but see infra* n.146 (discussing recent TiVo product innovations).

⁹⁷ NCTA Reply Comments at 14-16.

⁹⁸ *Id.*

⁹⁹ *Id.* at 16.

integrated set-top box with identical functionality.¹⁰⁰ This cost would translate into an average increase of \$2 to \$3 per month for each combination (*i.e.*, an additional \$2 to \$3 per television set with a set-top box deployed after July 1, 2006).¹⁰¹ NCTA argues that this cost increase will reduce subscriber choice by removing a less expensive, integrated set-top box offered for lease by a cable operator as a low-cost alternative for consumers.¹⁰² NCTA suggests that the additional costs may result in a “dampening of consumer enthusiasm for digital services” and that the significant capital costs required to unbundle the boxes will jeopardize capital outlays needed to support new services.¹⁰³ According to NCTA, retaining the ban also would increase costs on new entrants in the cable set-top box market, such as Panasonic, which are developing integrated set-top boxes for purchase by cable operators.¹⁰⁴ NCTA further argues that the additional equipment costs faced by cable will not be faced by the satellite providers, with whom cable operators compete.¹⁰⁵ NCTA states that cable operators and CableLabs are working to develop a downloadable security solution that would bring cost savings to both operator-supplied equipment and competitive devices built for retail.¹⁰⁶ NCTA argues that implementation of downloadable security would effectively achieve the same result as separated security, but without the cost of a CableCARD and associated interface.¹⁰⁷ CE agrees that downloadable security would represent an improvement over the current integrated security, but claims that a downloadable security solution will not be available in 2006.¹⁰⁸

24. TiVo asserts that since cable operators already are required to support CableCARDS, use of CableCARDS themselves should not present an additional operational burden; however, to the extent there is an increase in cost, such increase should be short-lived given the economic effects of volume resulting from widespread use by cable operators.¹⁰⁹ The CE parties argue that advances in technology continue to bring CableCARD acquisition costs down, and that costs will be further reduced by investment and volume production resulting from cable industry reliance on PODs.¹¹⁰ They claim that the costs described by NCTA are for first-generation products and that provision of the old cost estimates by

¹⁰⁰ NCTA Comments at 15-16. NCTA claims that the costs to cable operators, and ultimately their customers, will remain high because they include licensing fees for intellectual property, warranties and indemnification, and the underlying security purchased with the CableCARD. Letter from Neal Goldberg, General Counsel, NCTA, to W. Kenneth Ferree, Chief, Media Bureau (Dec. 20, 2004) at 3.

¹⁰¹ NCTA Comments at 15-16.

¹⁰² *Id.* at 16. NCTA argues that the prohibition on integrated devices will force all cable subscribers to bear additional costs despite the fact that the enhanced portability provides no added value to cable subscribers, who cannot take a set-top box leased from one cable operator to another cable operator’s system. *Id.*

¹⁰³ *Id.* at 17; *see also* Letter from Paul Glist, Counsel for Adelphia Communications, to Marlene Dortch, Secretary, Federal Communications Commission (Dec. 16, 2004); Letter from Paul Glist, Counsel for Charter Communications, to Marlene Dortch, Secretary, Federal Communications Commission (Dec. 7, 2004)

¹⁰⁴ NCTA *Ex Parte* Presentation (Oct. 19, 2004) at 1; *see also* Comments of Matsushita Electronic Corporation of America (2000) at 4-5.

¹⁰⁵ Letter from Neal Goldberg, General Counsel, NCTA, to W. Kenneth Ferree, Chief, Media Bureau (Dec. 20, 2004) at 4.

¹⁰⁶ *Id.* at 8

¹⁰⁷ *Id.*

¹⁰⁸ Letter from Julie M. Kearney, Senior Director, Regulatory Affairs, Consumer Electronics Association, to Marlene Dortch, Secretary, Federal Communications Commission (Nov. 23, 2004) at 3.

¹⁰⁹ TiVo Video Competition Reply Comments, n. 4.

¹¹⁰ CE Reply Comments at 4; Letter from Jeffrey Lawrence, Director Content Policy, Intel Corp., to Marlene Dortch, Secretary, Federal Communications Commission (Nov. 17, 2004) at 2.

NCTA demonstrates that there has been little change in the market since 1998.¹¹¹ According to the CE parties, NCTA erred in its estimates of the cost differential between separate and integrated devices by failing to take into account the learning curve and volume effects of cable operators not relying on PODs, the beneficial impact of competition, the opportunity for newer and less expensive headend encryption, potential savings from the ability to physically renew descrambler and authentication circuitry, and competitive devices available for the newest cable services.¹¹² Thus, the CE parties contend that it should not be taken as established that there will be a net increase in consumer costs if the prohibition on integrated devices is maintained.¹¹³ CEA and Intel project that, in quantity, CableCARDs initially will cost between \$15 and \$19, with prices further dropping after July 1, 2006.¹¹⁴ The CE parties also suggest that more affordable conditional access technologies will be developed and that POD technology should not be insulated from cable innovation.¹¹⁵ For example, Sony filed comments in this proceeding to provide information about its Passage technology for digital cable system security and the potential effect of Passage on the cost and supply of CableCARDs.¹¹⁶ Passage permits cable operators to incorporate conditional access technology alternatives into their systems alongside their legacy conditional access technology, without interfering with their previously fielded legacy set-top boxes or disrupting their existing customer support, billing, and other systems.¹¹⁷

25. *DTV Transition.* NCTA asserts that the prohibition on integrated devices may hinder the development of a low-cost digital set-top box and therefore delay a prompt transition to digital television.¹¹⁸ Specifically, NCTA asserts that the added costs of a CableCARD slot and accompanying CableCARD will adversely impact the development and deployment of inexpensive digital set-top boxes that will permit the viewing of digital programming on analog television sets. NCTA argues that the prohibition of such inexpensive integrated devices will retard the transition.¹¹⁹ Comcast contends that development of a low-cost box could be facilitated by the use of downloadable security, which Comcast asserts may not be permissible under a separated security requirement.¹²⁰ The CE parties, however, submit that the successful introduction of CableCARD products is even more critical to the DTV transition.¹²¹ They argue that in order for consumers to pay the extra expense for a digital tuner, consumers must have confidence that the products they purchase will attach to the cable network and

¹¹¹ CE Reply Comments at 4.

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ Letter from Julie M. Kearney, Senior Director, Regulatory Affairs, Consumer Electronics Association, to Marlene Dortch, Secretary, Federal Communications Commission (Nov. 23, 2004) at 3.

¹¹⁵ CE Comments at 10. The CE parties state that the single factor most resistant to cost reduction is the licensing cost for conditional access security, which may vary from zero to \$20 per unit. They argue that the use of PODs provides the flexibility for cable operators to avoid embedded licensing costs that pertain to devices already in the field and to implement new, more affordable technologies. *Id.*

¹¹⁶ Sony Comments at 1-3; *see also* CE Comments at 10.

¹¹⁷ Sony Comments at 2-3.

¹¹⁸ NCTA *Ex Parte* Presentation (Oct. 19, 2004) at 4; Letter from James Casserly, Counsel for Comcast Corp., to Marlene Dortch, Secretary, Federal Communications Commission (Nov. 15, 2004) at 2.

¹¹⁹ NCTA *Ex Parte* Presentation (Oct. 19, 2004) at 4.

¹²⁰ Letter from James Casserly, Counsel for Comcast Corp., to Marlene Dortch, Secretary, Federal Communications Commission (Nov. 15, 2004) at 2.

¹²¹ Letter from Julie M. Kearney, Senior Director, Regulatory Affairs, Consumer Electronics Association, to Marlene Dortch, Secretary, Federal Communications Commission (Oct. 7, 2004) at 1.

work as well as equipment supplied by cable operators.¹²² The CE parties contend that cable industry reliance on PODs will provide the necessary confidence.¹²³ CEA also argues that the downloadable security solution advocated by the cable operators will not be available by 2006 and, therefore, cannot advance the DTV transition in the near term.¹²⁴

26. *DBS Integrated Devices.* Digital Broadcast Satellite (“DBS”) providers historically have not been subject to the prohibition on integrated devices because the Commission determined in 1998 that, unlike cable set-top boxes, DBS set-top boxes already were commercially available and portable throughout the continental United States and the DBS equipment market was already subject to the type of competition that Congress and the Commission have sought to promote.¹²⁵ NCTA argues that the prohibition on integrated devices would place all cable operators at a competitive disadvantage to DBS providers, and thus the prohibition must be eliminated in order to create a level playing field between cable and DBS.¹²⁶ The CE parties submit that NCTA’s arguments regarding DBS illustrate why it is necessary for *all* navigation devices, including those supplied by DBS operators, to rely on CableCARDS if consumer electronics manufacturers are to have a fair chance to enter and compete in the navigation devices market.¹²⁷ DIRECTV supports retention of the ban, arguing that MVPD competition still weighs heavily in favor of cable and that incumbents continue to exert substantial market power.¹²⁸ DIRECTV asserts that, as in 1998, DBS equipment remains (i) widely available at retail outlets, (ii) from at least three different DBS providers, (iii) from a number of different equipment manufacturers, and (iv) on a geographically portable basis. DIRECTV states that cable’s navigation devices do not have these characteristics.¹²⁹

B. Discussion

27. Based on the record before us, we are not persuaded to eliminate the prohibition on integrated devices. We find that, although significant progress has been made in the retail availability of digital cable ready devices, competition in the navigation device market has not progressed to the point of supporting an elimination of the integration ban. Furthermore, although we wish to place as little of the cost burden resulting from the ban on the public, the mere fact that consumers will bear some of the costs resulting from the imposition of the integration ban is not a sufficient justification to eliminate the ban. Therefore, we reaffirm our earlier decision that the integration ban properly balances Section 629’s mandate to promote a commercial market for navigation devices with the practical necessity of allowing the market time to develop.¹³⁰ At the heart of a robust retail market for navigation devices is the reliance of cable operators on the same security technology and conditional access interface that consumer electronics manufacturers must rely on in developing competitive navigation devices. We conclude that a software-oriented conditional access solution may provide a “common reliance” standard capable of both

¹²² *Id.*; see also Comments of Association for Maximum Service Television, Inc. (2000) at 10.

¹²³ Letter from Julie M. Kearney, Senior Director, Regulatory Affairs, Consumer Electronics Association, to Marlene Dortch, Secretary, Federal Communications Commission (Oct. 7, 2004) at 1.

¹²⁴ Letter from Julie M. Kearney, Senior Director, Regulatory Affairs, Consumer Electronics Association, to Marlene Dortch, Secretary, Federal Communications Commission (Nov. 23, 2004) at 3 (“Nov. 23rd CEA *Ex Parte*”).

¹²⁵ *First Report and Order*, 13 FCC Rcd at 14800-14802; see also 47 CFR § 76.1204(a)(2).

¹²⁶ NCTA Comments at 20.

¹²⁷ CE Reply Comments at 5-6.

¹²⁸ DIRECTV Reply Comments at 2.

¹²⁹ *Id.* at 4.

¹³⁰ See *Reconsideration Order*, 14 FCC Rcd at 7610.

reducing the costs for set-top boxes and adding significantly to the options that equipment manufacturers now have in using the CableCARD. In balancing our specific statutory requirement to assure commercial availability of navigation devices and our general obligation to facilitate and promote the DTV transition, we conclude that a further extension of the effective date of the prohibition on integrated devices will permit the development of the statutorily required competitive market for navigation devices, with the potential benefit of reducing costs to consumers. On or before December 1, 2005, the cable industry must report to the Commission outlining the industry's conclusion regarding whether development and deployment of a downloadable security solution is feasible. In addition, we determine that to the extent a downloadable security or other similar solution provides for common reliance, as contemplated herein, we would consider the box to have a severable security component. Moreover, we believe this limited delay will not adversely affect innovation in the navigation device and digital cable-ready equipment market, while providing additional time for the cable, consumer electronics and information technology industries to make significant progress in the bidirectional negotiations. Furthermore, we will entertain requests for waiver of the prohibition on integrated devices for limited capacity integrated digital cable boxes. Finally, we are concerned about evidence that cable operators are not adequately supporting CableCARDS and will require periodic reporting to ensure that commercially available CableCARD-enabled devices continue to interoperate properly with cable systems.

28. Since Section 629 was adopted, the cable industry and equipment suppliers have made enormous efforts in the development of technical standards related to digital cable compatibility and navigation devices. The Commission noted in the *Extension Order* that the conclusion of the unidirectional MOU and the ongoing bidirectional negotiations “reflect[ed] progress towards the development of a retail market for consumer electronics equipment with navigation device functionality.”¹³¹ We also agree with NCTA that the one-way plug and play MOU and related Commission rules represented a “breakthrough in relations between the [cable and consumer electronics] industries and the establishment of standards for ‘digital cable ready’ products.”¹³² There is no question that progress in implementing the one-way plug and play MOU and related Commission rules has been significant.¹³³ CableCARD-equipped devices are available at retail and are being used by consumers. Yet it is clear from the record that the market for equipment used in conjunction with the distribution of digital cable video programming presently remains a nascent market.¹³⁴ The cable industry's retail initiative with respect to devices with integrated security has been unsuccessful. Irrespective of the reasons for this result or the cable industry's willingness to allow retail availability of integrated devices, we cannot conclude that this initiative satisfies our statutory mandate to assure commercial availability. In addition, the bidirectional negotiations have been disappointing. Although there has been movement on the part of some companies toward individual bidirectional agreements and a recent commitment by senior executives from Microsoft, Comcast and Time Warner to collectively work with the cable,

¹³¹ *Extension Order*, 18 FCC Rcd at 7926.

¹³² NCTA Comments at 8.

¹³³ Contrary to NCTA's assertion, we do not conclude that the one-way MOU and the Commission's implementing rules undermine the basis for the prohibition on integrated devices. See NCTA Comments at 8-9; NCTA Reply Comments at 7. Although cable operators now are required by law to support PODs, POD support was not the sole rationale for adoption of the prohibition on integrated devices. More generally, the Commission found that integration presents “an obstacle to the functioning of a fully competitive market for navigation devices by impeding consumers from switching to devices that become available through retail outlets.” *First Report and Order*, 13 FCC Rcd at 14803. Thus, even if we accepted NCTA's argument that the MOU and related rules necessarily result in support of PODs by cable operators, we would still be required to fully assess the competitive state of the navigation device market, and not simply cable operators' support of POD-enabled devices, in considering whether to retain the prohibition on integrated devices.

¹³⁴ The ability of the involved parties to reach reasonable agreement on standards has been more clearly demonstrated in conjunction with cable modem devices.

consumer electronics and information technology industries “to ensure the availability of two-way cable products during calendar 2006,”¹³⁵ a competitive market for two-way navigation devices is, at this point, far from assured. We find, therefore, that the competitive reasons that led the Commission to impose the integration ban have not been eliminated by developments in the market.

29. As reflected in the comments, a prohibition on the use of integrated devices will have certain cost and service disadvantages if implemented using the hardware conditional access technology presently available. Using the cost estimates provided by either cable or CE, if physical separation of the security element is required, we believe it is likely that consumers will face additional costs in the short term as a result of the prohibition on integrated navigation devices. We do not take lightly the imposition of additional costs on consumers, particularly in our efforts to implement a consumer-friendly statutory directive to increase competition. However, we are inclined to agree with the CE parties and other commenters that the cost of the POD and POD-Host interface combination likely will decrease over time as volume usage increases. In addition, the costs that this requirement will impose should be counterbalanced to a significant extent by the benefits likely to flow from a more competitive and open supply market. In particular, it seems likely that the potential savings to consumers from greater choice among navigation devices will offset some of the costs from separating the security and non-security functions of either MVPD-supplied devices or those that might otherwise be made available through retail outlets. In addition, except as discussed below, we generally do not believe that maintenance of the prohibition on integrated navigation devices will delay the DTV transition. We believe that the incentive provided by the separate security requirement will spur cable operators to meet their obligations and promote the timely development of a competitive market in host devices. Accordingly, we find that there are sufficient competitive and consumer benefits to justify the costs of the ban.

30. The prohibition on integrated devices appears to be one of the few reasonable mechanisms for assuring that MVPDs devote both their technical and business energies towards the creation of an environment in which competitive markets will develop. The alternative could be far more intrusive and detailed regulatory oversight, which might constrain technological advancement. We believe that common reliance by MVPDs and consumer electronic manufacturers on an identical security function will align MVPDs’ incentives with those of other industry participants so that MVPDs will plan the development of their services and technical standards to incorporate devices that can be independently manufactured, sold, and improved upon. Moreover, if MVPDs must take steps to support their own compliant equipment, it seems far more likely that they will continue to support and take into account the need to support services that will work with independently supplied and purchased equipment. We believe that cable operator reliance on the same security technology and conditional access interface that consumer electronics manufacturers must rely on is necessary to facilitate innovation in competitive navigation device products and should not substantially impair innovation in cable operator-supplied products.¹³⁶ It is not our intent to force cable operators to develop and deploy new products and services in tandem with consumer electronics manufacturers.¹³⁷ Cable operators are free to innovate and introduce new products and services without regard to whether consumer electronics manufacturers are positioned to deploy substantially similar products and services. However, the concept of common reliance is intended to assure that cable operator development and deployment of new products and services does not

¹³⁵ Microsoft/Comcast/Time Warner *Ex Parte*, at 1.

¹³⁶ In the *First Report and Order*, we declined to specify any particular standard, but anticipated that communications would occur through a “commonly used interface or an interface that conforms to appropriate technical standards promulgated by a national standards organization.” 47 C.F.R. §76.1204(b); *First Report and Order*, 13 FCC Rcd at 14804. Accordingly, we emphasize here that we expect cable operators to deploy navigation devices using the same technologies and standards available to manufacturers of commercially available devices, such as those promulgated by CableLabs.

¹³⁷ See NCTA Reply Comments at 16.

interfere with the functioning of consumer electronics equipment or the introduction of such equipment into the commercial market for navigation devices. The Commission's navigation device rules are an important tool for promoting competition and bringing more choice to consumers. By maintaining the ban, we can help ensure that as the navigation devices market continues to mature, consumers will be able to experience the benefits of choice in the navigation devices market.

31. We also recognize, however, that development of set-top boxes and other devices utilizing downloadable security is likely to facilitate the development of a competitive navigation device market, aid in the interoperability of a variety of digital devices, and thereby further the DTV transition. The cable industry currently is working on a software-oriented conditional access solution.¹³⁸ A software downloadable security system would allow cable operators and consumer electronics manufacturers to rely on an identical security function, but would not require the potentially costly complete separation of the physical security element discussed above. In this regard, we acknowledge that an integration of different functions within various electronic devices is one of the reasons why the costs of these devices generally continue to decline and that a software-based security function would be consistent with this trend. If the ban were to go into effect in 2006, this would, as a practical matter, impede the development of a less expensive and more flexible system for both protecting system security and creating a consumer product interface, as resources would be diverted from producing a downloadable security system to physical separation of the security element from set-top boxes.¹³⁹ We believe that the potential benefit of a common security technology with significantly reduced costs justifies a limited extension of the deadline for phase-out of integrated devices. We will, therefore, afford cable operators additional time to determine whether it is possible to develop a downloadable security function that will permit them to comply with our rules without incurring the cable operator and consumer costs associated with the separation of hardware. Accordingly, we extend the phase-out date until July 1, 2007.¹⁴⁰ We believe that this extension is both consistent with the ultimate objective of this proceeding and the statutory directive of Section 629.

32. The cable industry is required to submit to the Commission by December 1, 2005 a report on the feasibility of deploying downloadable security and, if feasible, a proposed timeline for deployment.¹⁴¹ If such report finds downloadable security to be feasible and preferable to the existing separable security configuration, the report should also state that the cable industry will commit to the implementation of this system for its own devices and those purchased at retail. If so, the report should also state whether a downloadable security function can be achieved and implemented by July 1, 2007. If it cannot, the report should propose and justify a new timetable by which the cable and consumer electronics industries will introduce a downloadable security function for their equipment. The report should attach a draft copy of all licensing terms to which manufacturers would have to agree to include the downloadable security solution in their devices. Following submission of the cable industry's report,

¹³⁸ See *Microsoft/Comcast/Time Warner Ex Parte*, at 2; Letter from James Casserly, Counsel for Comcast Corporation, to Marlene Dortch, Secretary, Federal Communications Commission (Jan. 19, 2005) at 2; Letter from Neal Goldberg, General Counsel, NCTA, to W. Kenneth Ferree, Chief, Media Bureau (Dec. 20, 2004) at 8.

¹³⁹ See *Microsoft/Comcast/Time Warner Ex Parte*, at 2.

¹⁴⁰ After July 1, 2007, MVPDs subject to the rule are prohibited from supplying new integrated boxes to subscribers directly or indirectly, including through third-party retailers. See 47 C.F.R. § 76.1204(a)(1) (prohibiting MVPDs from "plac[ing] in service new [integrated] navigation devices for sale, lease, or use").

¹⁴¹ The requirement regarding the filing of the report by the cable industry on the feasibility of deploying downloadable security and a proposed timeline for deployment will become effective after approval by the Office of Management and Budget ("OMB") under the Paperwork Reduction Act of 1995 ("PRA"). Upon OMB approval, we will issue a Public Notice announcing the effective date of this rule. The effective date will be no earlier than December 1, 2005.

the public shall have thirty days to submit comment on the report, including the draft licensing terms.¹⁴² Consumer electronics parties have asked that we impose a variety of conditions on the licensing terms now, and that we require the technical specifications and standards for any downloadable security solution be approved under an open standard.¹⁴³ When we review the cable industry's report on the feasibility of downloadable security, and the public's response thereto, as well as if and when we are asked to review any further requests to eliminate or postpone the ban, we will evaluate issues such as these to the extent they relate to the fulfillment of the goals of Section 629.

33. We believe that a twelve-month extension of the deadline, until July 1, 2007, will provide adequate time for the cable industry to come into compliance with the rule if downloadable security is determined not to be a viable option. It is possible that the existing standards reflected in the CableLabs "CableCARD-Host Interface License Agreement"¹⁴⁴ could be used in conjunction with the 2006 separation requirement deadline, but discussions relating to an alternative, consensus formulation of these standards are ongoing,¹⁴⁵ and do not at this time provide the basis for manufacturing decisions applicable to the 2006 date. Under the circumstances, extending the deadline for phase-out of integrated devices in order to assess the feasibility of a software-oriented conditional access solution is reasonable, as this appears to be the direction in which the digital content and communications system industries are moving. We believe that it is important for the Commission to recognize this movement and, as appropriate, to attempt to bring the relevant Commission rules into line.

34. We find that such an extension will not significantly delay the establishment of a more competitive market for navigation devices and may reduce costs associated with the ban. In addition, we disagree with CEA, TiVo and others that this limited delay will adversely affect innovation in digital cable ready equipment.¹⁴⁶ Consumer equipment manufacturers are assured though today's decision that the Commission remains committed to ensuring common reliance of cable operators and unaffiliated consumer electronics companies on the same security technology and conditional access interface. In addition, this limited delay should infuse new life in the stalled bidirectional discussions. We are encouraged by the recent breakthrough in which top executives at Microsoft, Comcast and Time Warner, recognizing the "importance and urgency in getting the [cable, CE and IT] industries to a full implementation of two-way cable-ready products available at retail," committed to personally supervise the efforts to reach a bidirectional deal.¹⁴⁷ We expect the consumer electronics and information

¹⁴² The December 1, 2005 report by the cable industry and the comments in response to that report should be limited to the issues of the feasibility of a downloadable security function, the level of commitment of the interested parties to such function, and the timetable selected to achieve the implementation of such function. The Commission will not entertain arguments regarding the need for the cable industry to rely on the same security function as their consumer electronics competitors. That argument has been resolved in this Second Report and Order.

¹⁴³ Letter from Julie M. Kearney, Senior Director, Regulatory Affairs, Consumer Electronics Association to Marlene Dortch, Secretary, Federal Communications Commission, at 2-3 (Mar. 14, 2005) ("March 14th CEA *Ex Parte*").

¹⁴⁴ See <http://www.opencable.com/downloads/CHILA.pdf> ("CHILA").

¹⁴⁵ See *supra* ¶¶ 17-20.

¹⁴⁶ We note that innovation continues to be a hallmark of the navigation devices and digital cable-ready equipment markets. For instance, TiVo recently displayed a dual tuner DVR using two CableCARD slots and announced the development of a high-definition digital-ready DVR that will "fully integrate an HD digital cable receiver and TiVo DVR in a single set top box" where CableCARD technology will be built-in for deployment in early 2006. See *TiVo Unveils Next Generation Service Strategy at CES*, available at, <http://www.tivo.com/5.3.1.1.asp?article=235> (visited Feb. 25, 2005); see also Letter from Neal Goldberg, General Counsel, NCTA, to Jonathan Cody, Legal Advisor to Chairman Powell, at 4-5 (Jan. 11, 2005) (discussing a variety of innovations relevant to this proceeding on display at the 2005 Consumer Electronics Show, despite "the continued availability of leased integrated set-top boxes").

¹⁴⁷ Microsoft/Comcast/Time Warner *Ex Parte*, at 1.

technology industries (and other interested groups) to continue to fully participate with cable in these negotiations and in developing a downloadable conditional access solution and implementation timetable. To that end, NCTA and CEA shall file joint status reports and hold joint status meetings with the Commission on or before August 1, 2005 and every 60 days thereafter on progress in bidirectional talks and a software-based conditional access agreement.¹⁴⁸

35. NCTA has suggested, however, that under the separated security rule, a device with downloadable security could violate the requirement that security functions be separated from host devices.¹⁴⁹ NCTA argues that the potential for this interpretation weighs in favor of eliminating the ban in order to permit innovation and greater efficiency in conditional access approaches.¹⁵⁰ Section 76.1204(a)(1) provides that no MVPD subject to the rule “shall place in service new navigation devices for sale, lease, or use that perform both conditional access and other functions in a single integrated device.”¹⁵¹ Our objective in this proceeding has been “to ensure that the goals of Section 629 are met without fixing into law the current state of technology.”¹⁵² Accordingly, we believe that the rule should be interpreted to require the physical separation of conditional access and other navigation functions only in the case of hardware-oriented conditional access solutions or other approaches that may preclude common reliance on the same security technology and conditional access interface. Downloadable security comports with the rule’s ban on the inclusion of conditional access and other functions in a “single integrated device” because, by definition, the conditional access functionality of a device with downloadable security is not activated until it is downloaded to the box by the cable operator. Thus, at the time the consumer purchases the device, the conditional access and other functions are not “integrated.” We determined in the *First Report and Order* that “MVPDs may continue to sell or lease boxes after [the deadline] provided the boxes have a severable security component instead of integrated security.”¹⁵³ To the extent a downloadable security or other similar solution provides for common reliance, as contemplated herein, we would consider the box to have a severable security component. Furthermore, this type of set-top box does not implicate the concern that prompted the separated security rule in the first instance—that is, that commercial availability of navigation device equipment would be impeded if MVPDs “have the advantage of being the only entity offering bundled boxes.”¹⁵⁴ Indeed, to apply our rule to prohibit MVPDs from marketing set-top boxes that include downloadable security functionality could slow the development and implementation of a downloadable security solution and actually frustrate the purpose of promoting commercial availability of set-top boxes so clearly established in the Act. We would therefore find such boxes compliant with Section 76.1204(a)(1) of our rules.

36. Although we agree with NCTA that the significant efforts by the cable and consumer electronics industries since 1998 indicate that a competitive environment sufficient to relax the prohibition on integrated equipment may develop, that day has not yet come. We emphasize that we are extending the deadline only to afford cable operators an opportunity to implement a lower-cost solution to

¹⁴⁸ We note that under the *Paperwork Reduction Act*, the Office of Management and Budget grants approval for such document collections for three years, subject to renewal. The requirement regarding NCTA and CEA filing joint status reports and holding joint status meetings with the Commission every 60 days will become effective after approval by OMB under the PRA. Upon OMB approval, we will issue a Public Notice announcing the effective date of this rule. The effective date will be no earlier than August 1, 2005.

¹⁴⁹ *Id.*

¹⁵⁰ *See id.*

¹⁵¹ 47 C.F.R. § 76.1204(a)(1).

¹⁵² *First Report and Order*, 13 FCC Rcd at 14781.

¹⁵³ *Id.* at 14803.

¹⁵⁴ *See Reconsideration Order*, 14 FCC Rcd at 7610; *First Report and Order*, 13 FCC Rcd at 14799.

comply with the rule. We expect cable operators to work diligently to assess the feasibility of downloadable security and to come into compliance with the rule by July 1, 2007, either by physically separating the security element in their set-top boxes or by incorporating downloadable security. If downloadable security proves feasible, but cannot be implemented by July 1, 2007, we will consider a further extension of the deadline. As part of the Commission's consideration of any further extensions, we will consider the extent to which there has been progress towards making navigation devices commercially available, as required by Section 629, and whether any further extension would promote Congress' objectives. As part of this analysis, the Commission would consider whether the cable industry is meeting its current obligations to deploy and support CableCARDs; progress toward deployment of multistream CableCARDs and towards a bidirectional agreement;¹⁵⁵ and whether any downloadable security function developed as a result of such extension would provide for common reliance by cable-deployed and commercially available devices. We are not inclined, however, to consider any further extensions requested on the basis of the level of competition in the navigation device market. Absent common reliance on an identical security function, we do not foresee the market developing in a manner consistent with our statutory obligation.¹⁵⁶ Nevertheless, we note that Section 629 contains a sunset provision triggered by fully competitive markets for video programming and navigation devices.¹⁵⁷ Section 76.1208 of our rules provides that any interested party may petition the Commission for a determination that (1) the market for the distribution of video programming is fully competitive; (2) the market for navigation devices and associated equipment is fully competitive; and (3) elimination of the navigation device rules would promote competition and the public interest.¹⁵⁸

37. We are also in agreement with NCTA's assertion that achieving consumer choice by establishing a competitive market should not displace a low-cost set-top box option for MVPD subscribers.¹⁵⁹ It is critical to the DTV transition that consumers have access to inexpensive digital set-top boxes that will permit the viewing of digital programming on analog television sets both during and after the transition. The availability of low-cost boxes will further the cable industry's migration to all-digital networks, thereby freeing up spectrum and increasing service offerings such as high-definition television. Accordingly, as cable systems migrate to all-digital networks, we will also consider whether low-cost, limited capability boxes should be subject to the integration ban or whether cable operators should be permitted to offer such low-cost, limited capability boxes on an integrated basis. We are inclined to believe that provision of such devices by cable operators will not endanger the development of the competitive marketplace envisioned in Section 629, particularly because the more advanced devices offered by cable operators for primary home use will be required to rely on the same CableCARD

¹⁵⁵ See *Microsoft/Comcast/Time Warner Ex Parte* at 1-2.

¹⁵⁶ Contrary to NCTA's assertion, the Commission's focus on unidirectional and bidirectional plug and play standards in the *Extension Order* does not indicate a rejection of the parity and reliance rationales underlying adoption of the ban. See NCTA Comments at 6. Rather, the Commission concluded that, at the time it adopted the *Extension Order*, the evolving nature of plug and play represented the potential to achieve a competitive environment sufficient to eliminate the prohibition. Although it was assumed that maintenance of the ban would have a positive influence on negotiations, the Commission did not suggest that adoption of a unidirectional or bidirectional memorandum of understanding would, in itself, be sufficient to warrant elimination of the ban.

¹⁵⁷ 47 U.S.C. § 549(e).

¹⁵⁸ 47 C.F.R. § 76.1208; see also *First Report and Order*, 13 FCC Rcd at 14818. Although there is no one achievement that in itself would indicate that the navigation device market has become fully competitive, certain developments would obviously indicate significant progress toward fulfillment of that prong of the sunset determination. Such developments may include, but are not limited to, the completion of a set of standards to more completely facilitate the retail availability of bidirectional digital cable products and the successful introduction and support of such products.

¹⁵⁹ See NCTA Comments at 14-17.

technology as devices offered at retail by consumer electronics manufacturers. In the interim, we will entertain requests for waiver of the prohibition on integrated devices for limited capability integrated digital cable boxes. We do not believe that waiver will be warranted for devices that contain personal video recording (“PVR”), high-definition, broadband Internet access, multiple tuner, or other similar advanced capabilities. Any request for waiver in this regard should include the full specifications for any device(s) for which waiver is sought.

38. Several parties have raised concerns regarding the lack of parity in treatment between DBS operators and other MVPDs with respect to the prohibition on integrated devices.¹⁶⁰ DBS equipment remains widely available at retail outlets from various DBS service providers and a number of different equipment manufacturers, on a geographically portable basis. Accordingly, the distinctions that led the Commission to differentiate between DBS and other MVPDs in 1998 remain valid. We recognize, however, that DBS has become the most significant competitor to cable on a national basis¹⁶¹ and that DBS is not immune from some of the same concerns regarding constraints on independent innovation and competition that arise in the cable context. Avoiding rule based market distortions with respect to DBS as a competitor to cable also is an important consideration. We do not regard this proceeding, however, as providing a record on which the Commission can resolve these issues.

39. We do not intend to suggest that cable operators implementing downloadable security solutions may decrease in any way their support of CableCARDS or CableCARD-enabled devices. The MOU and the Commission’s rules require cable operators to support PODs, and consumers have purchased POD-enabled devices in reliance on these requirements. We expect the cable industry to dedicate the resources necessary to ensure that commercially available CableCARD-enabled devices continue to interoperate properly with cable systems. We note that some consumer electronics manufacturing entities assert that cable industry deployment and support of CableCARDS has been disappointing.¹⁶² The Commission takes seriously allegations that the cable industry, or individual cable operators, are failing to meet their obligations to deploy and support CableCARDS. If specific allegations of CableCARD support violations are brought to the Commission, we will investigate such allegations and take appropriate action if necessary. Further to this end, we direct the six largest cable operators, Comcast Corporation, Time Warner Cable, Cox Communications, Charter Communications, Adelphia Cable, and Cablevision,¹⁶³ to file on or before August 1, 2005 and every 90 days thereafter, status reports on CableCARD deployment and support.¹⁶⁴ The report(s) shall address the following: (1) the general availability of CableCARDS; (2) the number of CableCARDS currently in service and how those devices are placed in service; (3) whether service appointments are required for all CableCARD installations; (4) the average number of truck rolls required to install a CableCARD; (5) the monthly price charged for a CableCARD and the average cost of installation; (6) problems encountered in deploying CableCARDS and how those problems have been resolved; and (7) the process in place for resolving existing and newly discovered CableCARD implementation problems. In addition, parties to this proceeding have described the development and deployment of a multistream CableCARD as crucial to the introduction of an array

¹⁶⁰ See, e.g., NCTA Comments at 17-20; CE Reply Comments at 5-6.

¹⁶¹ *Annual Assessment of the Status of Competition in the Market for Delivery of Video Programming*, 19 FCC Rcd 1606, 1609 (2004).

¹⁶² See e.g., Thompson/Mitsubishi *Ex Parte* at 1; Nov. 23rd CEA *Ex Parte* at 2; Letter from Julie M. Kearney, Senior Director, Regulatory Affairs, Consumer Electronics Association to Jonathan Cody, Legal Advisor, Office of Chairman Michael K. Powell, Federal Communications Commission (Jan. 18, 2005) at 2.

¹⁶³ See *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, FCC 05-13, Table B-3 (rel. Feb. 4, 2005).

¹⁶⁴ The cable operators may file separate reports or a joint report. If filing jointly, such report shall contain a separate response for each issue for each cable operator.

of next generation digital products.¹⁶⁵ The report(s) should address the effort to develop and deploy a multistream CableCARD. Specifically, the report(s) should address the development process and include a timetable indicating when a multistream CableCARD will be available for widespread use in digital devices available commercially. Consumer electronics parties contend that multistream CableCARDS should be available later this year.¹⁶⁶ Although the cable industry has not offered an alternative date certain, Comcast and Time Warner have committed to “making multi-stream CableCARDS available for [unidirectional digital cable products] on an expedited basis.”¹⁶⁷ Given that multistream CableCARDS enable features (for example, recording one channel while watching another) that today are available only to cable subscribers through set-top boxes provided by their cable operator, we expect the timetable provided in the report to be in the near future. The reports and timetable proposed therein will of course be available for public inspection; we will carefully review the reports along with any input we receive from the public to ensure that the cable industry is in fact living up to its commitment to “expedite” the multistream CableCARDS, and that a delayed timetable is not motivated by anticompetitive or other improper reasons. The Media Bureau is instructed to review each report as to its sufficiency in addressing each of the topics discussed above. If a report is determined to be insufficient in any respect, the Media Bureau will so inform the Commission and instruct the reporting party to remedy the deficiency on an expedited basis. The Commission will indicate in a future proceeding when the CableCARD status reports will terminate.¹⁶⁸

IV. PROCEDURAL MATTERS

40. *Regulatory Flexibility Act.* As required by the Regulatory Flexibility Act, the Commission has prepared a Final Regulatory Flexibility Analysis (“FRFA”) relating to this document. The FRFA is set forth in Appendix C.

41. *Paperwork Reduction Act.* This document contains new information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new information collection requirements contained in this proceeding. In addition, we note that, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), we previously sought specific comment on how the Commission might “further reduce the information collection burden for small business concerns with fewer than 25 employees.” In this present document, we have assessed the effects of the reporting requirements imposed herein, and find that there is unlikely to be an increased administrative burden on businesses with fewer than 25 employees. First, the requirement to submit a report on the feasibility of downloadable security applies to the cable industry, but not to individual cable operators. We generally do not expect that cable operators with fewer than 25 employees will be actively involved in the preparation of such report. The requirement to submit reports detailing CableCARD deployment and support every 90 days, beginning August 1, 2005, applies only to specified large cable multiple system operators. Finally, the requirement to submit reports regarding progress in the bidirectional talks and a software-based conditional access agreement every 60 days, beginning

¹⁶⁵ *See supra* ¶ 22.

¹⁶⁶ March 14th CEA *Ex Parte* at 1-2.

¹⁶⁷ Microsoft/Comcast/Time Warner *Ex Parte* at 2.

¹⁶⁸ We note that under the *Paperwork Reduction Act*, the Office of Management and Budget grants approval for such document collections for three years, subject to renewal. The requirement regarding the six largest cable operators filing status reports on CableCARD deployment and support every 90 days will become effective after approval by OMB under the PRA. Upon OMB approval, we will issue a Public Notice announcing the effective date of this rule. The effective date will be no earlier than August 1, 2005.

August 1, 2005, applies to the National Cable and Telecommunications Association (NCTA) and the Consumer Electronics Association (CEA), not to individual cable operators or consumer electronics manufacturers. We generally do not expect that cable operators or consumer electronics manufacturers with fewer than 25 employees will be actively involved in the preparation of such reports, or that these small businesses are actively involved in the underlying bidirectional talks.

42. The Commission will send a copy of this *Second Report and Order* in a report to Congress and the Government Accountability Office pursuant to the Congressional Review Act.¹⁶⁹

V. ORDERING CLAUSES

43. **IT IS HEREBY ORDERED** that, pursuant to the authority contained in Sections 4(i), 303(r), and 629 of the Communications Act of 1934, as amended,¹⁷⁰ the Commission's July 1, 2006 prohibition on integrated navigation devices contained in 47 C.F.R. 76.1204(a)(1) **IS AMENDED** as set forth in Appendix B, and shall become effective 30 days after publication in the Federal Register.

44. **IT IS FURTHER ORDERED** that Comcast Corporation, Time Warner Cable, Cox Communications, Charter Communications, Adelphia Cable, and Cablevision **SHALL FILE REPORTS** to the Commission on August 1, 2005 and every 90 days thereafter detailing CableCARD deployment and support as further described herein and that the National Cable and Telecommunications Association and Consumer Electronics Association **SHALL FILE REPORTS** to the Commission on or before August 1, 2005 and every 60 days thereafter on progress in bidirectional talks and a software-based conditional access agreement. These reporting requirements are subject to the PRA and shall not be effective until approved by OMB. The Commission will publish a notice in the Federal Register announcing the effective date of the requirements, which shall be no earlier than August 1, 2005.

45. **IT IS FURTHER ORDERED** that the cable industry **SHALL FILE A REPORT** to the Commission on December 1, 2005 on the feasibility of deploying downloadable security as further described herein. This reporting requirement is subject to the PRA and shall not be effective until approved by OMB. The Commission will publish a notice in the Federal Register announcing the effective date of the requirement, which shall be no earlier than December 1, 2005.

¹⁶⁹ See 5 U.S.C. § 801(a)(1)(A).

¹⁷⁰ 47 U.S.C. §§ 154(i), 303(r), and 549.

46. **IT IS FURTHER ORDERED** that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, **SHALL SEND** a copy of this *Second Report and Order*, including the Final Regulatory Flexibility Analysis and Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A**COMMENTERS (2000)**

1. AT&T Corporation
2. Cablevision Systems Corporation
3. Charter Communications, Inc.
4. Comcast Cable Communications, Inc.
5. Consumer Electronics Association
6. Consumer Electronics Retailers Coalition
7. Cox Communications, Inc.
8. DIVA Systems Corporation
9. Gemstar-TV Guide International, Inc., *et al.*
10. Matsushita Electric Corporation of America d/b/a Panasonic
11. MediaCom Communication, *et al.*
12. Motion Picture Association of America
13. Motorola, Inc.
14. National Cable and Telecommunications Association
15. Philips Electronics North America Corporation
16. Scientific-Atlanta
17. Telecommunications Industry Association
18. Time Warner Cable
19. TiVo, Inc.
20. Veridian Corporation
21. WorldGate Communications, Inc.

REPLY COMMENTERS (2000)

1. Adelphia Communications Corporation
2. Association for Maximum Service Television
3. AT&T Corporation
4. Charter Communications, Inc.
5. Consumer Electronics Association
6. Consumer Electronics Retailers Coalition
7. Information Technology Industry Council
8. King County, Washington and National Association of Telecommunications Officers and Administrators
9. Motion Picture Association of America
10. Motorola, Inc.
11. National Cable and Telecommunications Association
12. Scientific-Atlanta
13. Time Warner Cable

COMMENTERS (2004)

1. Consumer Electronics Association and Consumer Electronics Retailers Coalition
2. National Cable and Telecommunications Association

REPLY COMMENTERS (2004)

1. Consumer Electronics Association and Consumer Electronics Retailers Coalition
2. DIRECTV, Inc.
3. National Cable and Telecommunications Association
4. Sony Electronics Inc.

APPENDIX B

Part 76 of the Code of Federal Regulations is amended as follows:

PART 76 – MULTICHANNEL VIDEO AND CABLE TELEVISION SERVICE

1. The authority for Part 76 continues to read as follows:

AUTHORITY: 47 U.S.C. 151, 152, 153, 154, 301, 302, 303, 303a, 307, 308, 309, 312, 317, 325, 338, 339, 503, 521, 522, 531, 532, 533, 534, 535, 536, 537, 543, 544, 544a, 545, 548, 549, 552, 554, 556, 558, 560, 531, 571, 572, and 573.

2. Section 76.1204(a) is amended by revising paragraph (a)(1) to read as follows:

§ 76.1204 Availability of equipment performing conditional access or security functions.

(a)(1) A multichannel video programming distributor that utilizes navigation devices to perform conditional access functions shall make available equipment that incorporates only the conditional access functions of such devices. Commencing on July 1, 2007, no multichannel video programming distributor subject to this section shall place in service new navigation devices for sale, lease, or use that perform both conditional access and other functions in a single integrated device.

**APPENDIX C
FINAL REGULATORY FLEXIBILITY ANALYSIS**

As required by the Regulatory Flexibility Act of 1980, as amended (“RFA”),¹ an Initial Regulatory Flexibility Analysis (“IRFA”) was incorporated into the *Order and Further Notice of Proposed Rulemaking (“Extension Order”)*.² The Commission sought written public comment on the proposals in the *Extension Order*, including comment on the IRFA. No comments were received on the IRFA. This present Final Regulatory Flexibility Analysis (“FRFA”) conforms to the RFA.³

A. Need for, and Objectives of, the Order. Section 629 of the Communications Act of 1934, as amended (the “Act”), requires the Commission to develop rules to assure commercial availability of navigation devices used in conjunction with services provided by multichannel video programming distributors (“MVPDs”).⁴ The statutory objective of Section 629 is to assure that navigation devices used by consumers to access a particular MVPD’s programming are available to consumers from manufacturers, retailers, and other vendors not affiliated with that MVPD. To this end, the Commission adopted a January 1, 2005 deadline for MVPDs to cease deploying new navigation devices that perform both conditional access functions and other functions in a single integrated device.⁵ Requiring MVPDs to separate the conditional access function from the basic navigation device (the “host” device) was intended to permit unaffiliated manufacturers, retailers, and other vendors to commercially market host devices while allowing MVPDs to retain control over their system security. In the *Further Notice of Proposed Rulemaking and Declaratory Ruling*, the Commission indicated that it would reassess the need for the 2005 separation deadline in light of the evolving marketplace for navigation devices.⁶ In response, the cable industry and set-top box manufacturers generally urged that the 2005 deadline should be eliminated in favor of the continued offering of integrated navigation devices for rent to consumers. Other equipment manufacturing and retail interests urged that the date should be advanced to ensure the timely development of a retail market in host devices. After the *Further Notice and Declaratory Ruling* was issued, the cable and consumer electronics industries reached a memorandum of understanding (“MOU”) on a cable compatibility standard for a unidirectional digital cable television receiver with host device functionality, as well as other unidirectional digital cable products. The Commission sought comment on this standard, which would allow consumers to directly attach their DTV receivers to cable systems using a point of deployment (“POD”) module and receive one-way cable television services without the need for an external navigation device.⁷ In light of the ongoing notice and comment cycle on the FNPRM and the ongoing status of the negotiations between the cable and consumer electronic industries on specifications for bidirectional digital cable receivers and products, the Commission extended the separation deadline until July 1, 2006.

¹ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 18 FCC Rcd 7924 (2003) (“*Extension Order*”).

³ See 5 U.S.C. § 604.

⁴ 47 U.S.C. § 549.

⁵ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 13 FCC Rcd 14775, 14793 (1998) (“*First Report and Order*”).

⁶ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 15 FCC Rcd 18199 (2000) (“*Further Notice and Declaratory Ruling*”).

⁷ *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices and Compatibility Between Cable Systems and Consumer Electronics Equipment*, 18 FCC Rcd 518 (2003) (“*FNPRM*”).

This *Second Report and Order* concludes that the current level of competition in the navigation device market is not sufficient to assure the commercial availability of navigation devices. The *Second Report and Order* thus maintains the requirement that cable operators separate security and non-security functions in the devices they provide on a lease or sale basis, but extends the separation deadline until July 1, 2007.⁸ The one-year extension is intended to afford cable operators additional time to develop a downloadable security solution that will allow common reliance by cable operators and consumer electronics manufacturers on an identical security function without the potentially costly physical separation of the conditional access element.

The *Second Report and Order* also establishes several reporting deadlines, primarily applicable to the cable industry. First, the *Second Report and Order* requires that by December 1, 2005, the cable industry report to the Commission on the feasibility of implementing software-based conditional access in navigation devices. Second, beginning August 1, 2005 and every 90 days thereafter, the National Cable and Telecommunications Association and the Consumer Electronics Association must report to the Commission on the status of the ongoing negotiations regarding specifications for bidirectional digital cable receivers. Finally, beginning August 1, 2005 and every 60 days thereafter, Comcast Corporation, Time Warner Cable, Cox Communications, Charter Communications, Adelphia Cable, and Cablevision must file with the Commission reports detailing CableCARD deployment and support. These reporting requirements are intended to ensure that the one-year extension of the separation deadline does not adversely impact competition in the navigation devices market.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA. There were no comments filed that specifically addressed the rules and policies proposed in the IRFA.

C. Description and Estimate of the Number of Small Entities to Which Rules Will Apply. The RFA directs the Commission to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the rules adopted herein.⁹ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹⁰ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.¹¹ A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (“SBA”).¹²

The requirements contained in this *Second Report and Order* are intended to require MVPDs to cease deploying integrated navigation devices by July 1, 2007 and to file status reports related to navigation devices. Therefore, MVPDs, which includes Cable and other Program Distributors and

⁸ The Commission had previously sought comment on whether a new integration ban deadline was appropriate. *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 15 FCC Rcd 18199, 18202-03 (2000); *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, 18 FCC Rcd 7924, 7926 (2003).

⁹ 5 U.S.C. § 603(b)(3).

¹⁰ 5 U.S.C. § 601(6).

¹¹ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies, “unless an agency, after consultation with the Office of Advocacy of the SBA and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

¹² 15 U.S.C. § 632.

Satellite Carriers, will be directly and primarily affected by the proposed rules. In addition, because we require status reports to be submitted by the Consumer Electronics Association on behalf of consumer electronics manufacturers, the rules will also directly affect consumer electronics manufacturers. Therefore, in this FRFA, we consider the impact of the rules on small cable operators, small consumer electronics manufacturers, and other small entities. A description of such small entities, as well as an estimate of the number of affected small entities, is provided below.

Cable and Other Program Distribution. Cable system operators fall within the SBA-recognized definition of Cable and Other Program Distribution, which includes all such companies generating \$12.5 million or less in revenue annually.¹³ According to the Census Bureau data for 1997, there were a total of 1,311 firms that operated for the entire year in the category of Cable and Other Program Distribution. Of this total, 1,180 firms had annual receipts of under \$10 million and an additional 52 firms had receipts of \$10 million or more, but less than \$25 million.¹⁴ The Commission therefore estimates that the majority of providers in this category of Cable and Other Program Distribution are small businesses.

Cable System Operators (Rate Regulation Standard). The Commission has developed, with SBA's approval, its own definition of a small cable system operator for the purposes of rate regulation. Under the Commission's rules, a "small cable company" is one serving 400,000 or fewer subscribers nationwide.¹⁵ An estimated 1,439 cable operators qualified as small cable companies at the end of 1995.¹⁶ Since then, some of these companies may have grown to serve more than 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 1,439 small entity cable system operators that may be affected by the rules in this *Second Report and Order*.

Cable System Operators (Communications Act Standard). The Act also contains a size standard for a "small cable operator," which is defined as "a cable operators that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000."¹⁷ The Commission has determined that there are 67.7 million cable subscribers in the United States.¹⁸ Therefore, a cable

¹³ 13 C.F.R. § 121.201, NAICS code 517510.

¹⁴ U.S. Census Bureau, 1997. Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Subject Series—Establishment and Firm Size, Information Sector 51, Table 4 at 50 (2000). The amount of \$10 million was used to estimate the number of small business firms because the relevant Census categories stopped at \$9,999,999 and began at \$10,000,000. No category for \$12.5 million existed. Thus, the number is as accurate as it is possible to calculate, given the available information.

¹⁵ 47 C.F.R. § 76.901(e). The Commission developed this definition based on its determinations that a small cable system operator is one with annual revenues of \$100 million or less. For "regulatory simplicity," the Commission established the company size standard in terms of subscribers, rather than dollars; in the cable context, 400,000 subscribers equates to approximately \$100 million in annual regulated revenues. *See Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation*, 10 FCC Rcd 7393, 7408-09 (1995).

¹⁶ Paul Kagan Associates, Inc., Cable TV Investor, Feb. 29, 1996 (based on figured for Dec. 30, 1995).

¹⁷ 47 U.S.C. § 543(m)(2).

¹⁸ *See FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, 16 FCC Rcd 2225 (2001) ("2001 Subscriber Count Public Notice"). In the 2001 Subscriber Count Public Notice, the Commission established the threshold for determining whether a cable operator meets the definition of small cable operator at 677,000 subscribers, and determined that this threshold will remain in effect until and unless the Commission issues a superceding public notice. We recognize that the number of cable subscribers in the United States was estimated by the Commission in June 2004 to be almost 66.1 million. *See Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, FCC 05-13 ("2005 Cable Competition Report"). However, because

operator serving fewer than 677,000 subscribers shall be deemed a small operator if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed \$250 million in the aggregate.¹⁹ Based on available data, we estimate that the number of cable operators serving fewer than 677,000 subscribers is approximately 1,450. The Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million.²⁰ We are, therefore, unable at this time to estimate more accurately the number of cable system operators that would qualify as small cable operators under the size standard contained in the Act.

Direct Broadcast Satellite (“DBS”) Service. DBS service is a nationally distributed subscription service that delivers video and audio programming via satellite to a small parabolic “dish” antenna at the subscriber’s location. Because DBS provides subscription services, DBS falls within the SBA-recognized definition of Cable and Other Program Distribution.²¹ This definition provides that a small entity is one with \$12.5 million or less in annual receipts.²² Currently, only four operators hold licenses to provide DBS service, which requires a great investment of capital for operation. All four currently offer subscription services. Two of these four DBS operators, DirecTV²³ and EchoStar Communications Corporation (“EchoStar”),²⁴ report annual revenues that are in excess of the threshold for a small business. A third operator, Rainbow DBS, is a subsidiary of Cablevision’s Rainbow Network, which also reports annual revenues in excess of \$12.5 million, and thus does not qualify as a small business.²⁵ The fourth DBS operator, Dominion Video Satellite, Inc. (“Dominion”), offers religious (Christian) programming and does not report its annual receipts.²⁶ The Commission does not know of any source which provides this information and, thus, we have no way of confirming whether Dominion qualifies as a small business. Because DBS service requires significant capital, we believe it is unlikely that a small entity as defined by the SBA would have the financial wherewithal to become a DBS licensee. Nevertheless, given the absence of specific data on this point, we acknowledge the possibility that there are entrants in this field that may not yet have generated \$12.5 million in annual receipts, and therefore may be categorized as a small business, if independently owned and operated.

Fixed-Satellite Service (“FSS”). The FSS is a radiocommunication service between earth stations at a specified fixed point or between any fixed point within specified areas and one or more satellites.²⁷ The FSS, which utilizes many earth stations that communicate with one or more space

the Commission has not issued a public notice subsequent to the *2001 Subscriber Count Public Notice*, we propose to rely on the subscriber count threshold established by the *2001 Subscriber Count Public Notice*.

¹⁹ 47 C.F.R. § 76.901(f).

²⁰ The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority’s finding that the operator does not qualify as a small cable operator pursuant to Section 76.901(f) of the Commission’s rules. See 47 U.S.C. § 573; 47 C.F.R. § 76.901(f).

²¹ 13 C.F.R. § 121.201, NAICS code 517510.

²² *Id.*

²³ DirecTV is the largest DBS operator and the second largest MVPD, serving an estimated 13.04 million subscribers nationwide; see Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, *Eleventh Annual Report*, FCC 05-13, ¶ 55 (rel. Feb. 4, 2005) (“*2005 Cable Competition Report*”).

²⁴ EchoStar, which provides service under the brand name Dish Network, is the second largest DBS operator and the fourth largest MVPD, serving an estimated 10.12 million subscribers nationwide. *Id.*

²⁵ Rainbow DBS, which provides service under the brand name VOOOM, reported an estimated 25,000 subscribers. *Id.*

²⁶ Dominion, which provides service under the brand name Sky Angel, does not publicly disclose its subscribership numbers on an annualized basis. *Id.*

²⁷ See 47 C.F.R. § 2.1(c).

stations, may be used to provide subscription video service. Therefore, to the extent FSS frequencies are used to provide subscription services, FSS falls within the SBA-recognized definition of Cable and Other Program Distribution, which includes all such companies generating \$12.5 million or less in revenue annually.²⁸ Although a number of entities are licensed in the FSS, not all such licensees use FSS frequencies to provide subscription services. Two of the DBS licensees (EchoStar and DirecTV) have indicated interest in using FSS frequencies to broadcast signals to subscribers. It is possible that other entities could similarly use FSS frequencies, although we are not aware of any entities that might do so.

Private Cable Operators (PCOs) also known as Satellite Master Antenna Television (SMATV) Systems. PCOs, also known as SMATV systems or private communication operators, are video distribution facilities that use closed transmission paths without using any public right-of-way. PCOs acquire video programming and distribute it via terrestrial wiring in urban and suburban multiple dwelling units such as apartments or condominiums, and commercial multiple tenant units such as hotels and office buildings. The SBA definition of small entities for Cable and Other Program Distribution Services includes PCOs and, thus, small entity PCOs are defined as all such companies generating \$12.5 million or less in annual receipts.²⁹ Currently, there are approximately 135 members of the Independent Multi-Family Communications Council (IMCC), the trade association that represents PCOs.³⁰ Individual PCOs often serve approximately 3,000-4,000 subscribers, but the larger operations may serve as many as 15,000-55,000 subscribers. In total, PCOs currently serve approximately 1.1 million subscribers.³¹ Because these operators are not rate regulated, they are not required to file financial data with the Commission. Furthermore, we are not aware of any privately published financial information regarding these operators. Based on the estimated number of operators and the estimated number of units served by the largest ten PCOs, we believe that a substantial number of PCOs qualify as small entities.

Other Program Distribution. The SBA-recognized definition of Cable and Other Program Distribution includes other MVPDs, such as HSD, MDS/MMDS, ITFS, LMDS, and OVS. This definition provides that a small entity is one with \$12.5 million or less in annual receipts.³² As previously noted, according to the Census Bureau data for 1997, there were a total of 1,311 firms that operated for the entire year in the category of Cable and Other Program Distribution. Of this total, 1,180 firms had annual receipts of under \$10 million and an additional 52 firms had receipts of \$10 million or more, but less than \$25 million.³³ The Commission estimates, therefore, that the majority of providers in this category of Cable and Other Program Distribution are small businesses.

Home Satellite Dish (“HSD”) Service. Because HSD provides subscription services, HSD falls within the SBA-recognized definition of Cable and Other Program Distribution, which includes all such companies generating \$12.5 million or less in revenue annually.³⁴ HSD or the large dish segment of the

²⁸ 13 C.F.R. § 121.201, NAICS code 517510.

²⁹ 13 C.F.R. § 121.201, NAICS code 517510.

³⁰ See *2005 Cable Competition Report*, FCC 05-13, ¶110. Previously, the Commission reported that IMCC has 250 members. See *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 19 FCC Rcd 1606, 1666 (2004) (“2004 Cable Competition Report”).

³¹ See *2005 Cable Competition Report*, FCC 05-13, ¶110.

³² 13 C.F.R. § 121.201, NAICS code 517510.

³³ U.S. Census Bureau, 1997. Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Subject Series—Establishment and Firm Size, Information Sector 51, Table 4 at 50 (2000). The amount of \$10 million was used to estimate the number of small business firms because the relevant Census categories stopped at \$9,999,999 and began at \$10,000,000. No category for \$12.5 million existed. Thus, the number is as accurate as it is possible to calculate, given the available information.

³⁴ 13 C.F.F. § 121.201, NAICS code 517510.

satellite industry is the original satellite-to-home service offered to consumers, and involves the home reception of signals transmitted by satellites operating generally in the C-band frequency. Unlike DBS, which uses small dishes, HSD antennas are between four and eight feet in diameter and can receive a wide range of unscrambled (free) programming and scrambled programming purchased from program packagers that are licensed to facilitate subscribers' receipt of video programming. There are approximately 30 satellites operating in the C-band, which carry over 500 channels of programming combined; approximately 350 channels are available free of charge and 150 are scrambled and require a subscription. HSD is difficult to quantify in terms of annual revenue. HSD owners have access to program channels placed on C-band satellites by programmers for receipt and distribution by MVPDs. Commission data shows that, between June 2003, and June 2004, HSD subscribership fell from 502,191 subscribers to 335,766 subscribers, a decline of more than 33 percent.³⁵ The Commission has no information regarding the annual revenue of the four C-Band distributors.

Wireless Cable Systems. Wireless cable systems use the Multipoint Distribution Service ("MDS")³⁶ and Instructional Television Fixed Service ("ITFS")³⁷ frequencies in the 2 GHz band to transmit video programming and provide broadband services to subscribers. Local Multipoint Distribution Service ("LMDS") is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.³⁸ As previously noted, the SBA definition of small entities for Cable and Other Program Distribution, which includes such companies generating \$12.5 million in annual receipts, appears applicable to MDS, ITFS and LMDS. In addition, the Commission has defined small MDS and LMDS entities in the context of Commission license auctions.

In the 1996 MDS auction,³⁹ the Commission defined a small business as an entity that had annual average gross revenues of less than \$40 million in the previous three calendar years.⁴⁰ This definition of a small entity in the context of MDS auctions has been approved by the SBA.⁴¹ In the MDS auction, 67 bidders won 493 licenses. Of the 67 auction winners, 61 claimed status as a small business. At this time, the Commission estimates that of the 61 small business MDS auction winners, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 392 incumbent MDS licensees that have gross revenues that are not more than \$40 million and are thus considered small entities.⁴² MDS licensees and wireless cable operators that did not participate in the

³⁵ See *2005 Cable Competition Report*, FCC 05-13, ¶ 64. HSD subscribership declined more than 28 percent between June 2002 and June 2003. See *2004 Cable Competition Report*, 19 FCC Rcd 1654-55, ¶¶ 73-4.

³⁶ MDS, also known as Multichannel Multipoint Distribution Service ("MMDS"), is regulated by Part 21 of the Commission's rules; see 47 C.F.R. Part 21, subpart K; and has been renamed the Broadband Radio Service (BRS); see Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands; Part 1 of the Commission's Rules - Further Competitive Bidding Procedures; Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and the Instructional Television Fixed Service Amendment of Parts 21 and 74 to Engage in Fixed Two-Way Transmissions; Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Licensing in the Multipoint Distribution Service and in the Instructional Television Fixed Service for the Gulf of Mexico; 19 FCC Rcd 14165 (2004) ("*MDS/ITFS Order*").

³⁷ ITFS systems are regulated by Part 74 of the Commission's rules; see 47 C.F.R. Part 74, subpart I. ITFS, an educational service, has been renamed the Educational Broadband Service (EBS); see *MDS/ITFS Order*, 19 FCC Rcd 14165. ITFS licensees, however, are permitted to lease spectrum for MDS operation.

³⁸ See *Local Multipoint Distribution Service*, 12 FCC Rcd 12545 (1997) ("*LMDS Order*").

³⁹ MDS Auction No. 6 began on November 13, 1995, and closed on March 28, 1996. (67 bidders won 493 licenses.)

⁴⁰ 47 C.F.R. § 21.961(b)(1).

⁴¹ See *ITFS Order*, 10 FCC Rcd at 9589.

⁴² 47 U.S.C. § 309(j). Hundreds of stations were licensed to incumbent MDS licensees prior to implementation of

MDS auction must rely on the SBA definition of small entities for Cable and Other Program Distribution. Information available to us indicates that there are approximately 850 of these licensees and operators that do not generate revenue in excess of \$12.5 million annually. Therefore, we estimate that there are approximately 850 small MDS providers as defined by the SBA and the Commission's auction rules.

While SBA approval for a Commission-defined small business size standard applicable to ITFS is pending, educational institutions are included in this analysis as small entities.⁴³ There are currently 2,032 ITFS licensees, and all but 100 of these licenses are held by educational institutions. Thus, the Commission estimates that at least 1,932 ITFS licensees are small businesses.

In the 1998 and 1999 LMDS auctions,⁴⁴ the Commission defined a small business as an entity that had annual average gross revenues of less than \$40 million in the previous three calendar years.⁴⁵ Moreover, the Commission added an additional classification for a "very small business," which was defined as an entity that had annual average gross revenues of less than \$15 million in the previous three calendar years.⁴⁶ These definitions of "small business" and "very small business" in the context of the LMDS auctions have been approved by the SBA.⁴⁷ In the first LMDS auction, 104 bidders won 864 licenses. Of the 104 auction winners, 93 claimed status as small or very small businesses. In the LMDS re-auction, 40 bidders won 161 licenses. Based on this information, we believe that the number of small LMDS licenses will include the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers as defined by the SBA and the Commission's auction rules.

In sum, there are approximately a total of 2,000 MDS/MMDS/LMDS stations currently licensed. Of the approximate total of 2,000 stations, we estimate that there are 1,595 MDS/MMDS/LMDS providers that are small businesses as deemed by the SBA and the Commission's auction rules.

Open Video Systems ("OVS"). The OVS framework provides opportunities for the distribution of video programming other than through cable systems. Because OVS operators provide subscription services,⁴⁸ OVS falls within the SBA-recognized definition of Cable and Other Program Distribution Services, which provides that a small entity is one with \$ 12.5 million or less in annual receipts.⁴⁹ The Commission has certified 25 OVS operators with some now providing service. Broadband service providers (BSPs) are currently the only significant holders of OVS certifications or local OVS franchises, even though OVS is one of four statutorily-recognized options for local exchange carriers (LECs) to offer

Section 309(j) of the Communications Act of 1934, 47 U.S.C. § 309(j). For these pre-auction licenses, the applicable standard is SBA's small business size standards for "other telecommunications" (annual receipts of \$12.5 million or less). See 13 C.F.R. § 121.201, NAICS code 517910.

⁴³ In addition, the term "small entity" under SBREFA applies to small organizations (nonprofits) and to small governmental jurisdictions (cities, counties, towns, townships, villages, school districts, and special districts with populations of less than 50,000). 5 U.S.C. §§ 601(4)-(6). We do not collect annual revenue data on ITFS licensees.

⁴⁴ The Commission has held two LMDS auctions: Auction 17 and Auction 23. Auction No. 17, the first LMDS auction, began on February 18, 1998, and closed on March 25, 1998. (104 bidders won 864 licenses.) Auction No. 23, the LMDS re-auction, began on April 27, 1999, and closed on May 12, 1999. (40 bidders won 161 licenses.)

⁴⁵ See *LMDS Order*, 12 FCC Rcd at 12545.

⁴⁶ *Id.*

⁴⁷ See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (January 6, 1998).

⁴⁸ See 47 U.S.C. § 573.

⁴⁹ 13 C.F.R. § 121.201, NAICS code 517510.

video programming services.⁵⁰ As of June 2003, BSPs served approximately 1.4 million subscribers, representing 1.49 percent of all MVPD households.⁵¹ Among BSPs, however, those operating under the OVS framework are in the minority, with approximately eight percent operating with an OVS certification.⁵² Serving approximately 460,000 of these subscribers, Affiliates of Residential Communications Network, Inc. (“RCN”) is currently the largest BSP and 11th largest MVPD.⁵³ RCN received approval to operate OVS systems in New York City, Boston, Washington, D.C. and other areas. The Commission does not have financial information regarding the entities authorized to provide OVS, some of which may not yet be operational. We thus believe that at least some of the OVS operators may qualify as small entities.

Electronics Equipment Manufacturers. Rules adopted in this proceeding could apply to manufacturers of DTV receiving equipment and other types of consumer electronics equipment. The SBA has developed definitions of small entity for manufacturers of audio and video equipment⁵⁴ as well as radio and television broadcasting and wireless communications equipment.⁵⁵ These categories both include all such companies employing 750 or fewer employees. The Commission has not developed a definition of small entities applicable to manufacturers of electronic equipment used by consumers, as compared to industrial use by television licensees and related businesses. Therefore, we will utilize the SBA definitions applicable to manufacturers of audio and visual equipment and radio and television broadcasting and wireless communications equipment, since these are the two closest NAICS Codes applicable to the consumer electronics equipment manufacturing industry. However, these NAICS categories are broad and specific figures are not available as to how many of these establishments manufacture consumer equipment. According to the SBA’s regulations, an audio and visual equipment manufacturer must have 750 or fewer employees in order to qualify as a small business concern.⁵⁶ Census Bureau data indicates that there are 554 U.S. establishments that manufacture audio and visual equipment, and that 542 of these establishments have fewer than 500 employees and would be classified as small entities.⁵⁷ The remaining 12 establishments have 500 or more employees; however, we are unable to determine how many of those have fewer than 750 employees and, therefore, also qualify as small entities under the SBA definition. Under the SBA’s regulations, a radio and television broadcasting and wireless communications equipment manufacturer must also have 750 or fewer employees in order to qualify as a small business concern.⁵⁸ Census Bureau data indicates that there are 1,215 U.S. establishments that manufacture radio and television broadcasting and wireless communications equipment, and that 1,150 of these establishments have fewer than 500 employees and would be classified

⁵⁰ See 2005 Cable Competition Report, FCC 05-13, ¶ 71.

⁵¹ See 2004 Cable Competition Report, 19 FCC Rcd at 1659-60, ¶¶ 80-1.

⁵² See 2005 Cable Competition Report, FCC 05-13, ¶ 71.

⁵³ *Id.* WideOpenWest is the second largest BSP and 15th largest MVPD, with cable systems serving about 288,000 subscribers as of September 2003. The third largest BSP is Knology, which currently serves approximately 174,957 subscribers as of June 2004; see 2005 Cable Competition Report, FCC 05-13, ¶ 71.

⁵⁴ 13 C.F.R. § 121.201, NAICS code 334310.

⁵⁵ 13 C.F.R. § 121.201, NAICS code 334220.

⁵⁶ 13 C.F.R. § 121.201, NAICS code 334310.

⁵⁷ Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Industry Series—Manufacturing, Audio and Video Equipment Manufacturing, Table 4 at 9 (1999). The amount of 500 employees was used to estimate the number of small business firms because the relevant Census categories stopped at 499 employees and began at 500 employees. No category for 750 employees existed. Thus, the number is as accurate as it is possible to calculate with the available information.

⁵⁸ 13 C.F.R. § 121.201, NAICS code 334220.

as small entities.⁵⁹ The remaining 65 establishments have 500 or more employees; however, we are unable to determine how many of those have fewer than 750 employees and, therefore, also qualify as small entities under the SBA definition. We conclude, therefore, that there are no more than 542 small manufacturers of audio and visual electronics equipment and no more than 1,150 small manufacturers of radio and television broadcasting and wireless communications equipment for consumer/household use.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements. This *Second Report and Order* amends Section 76.1204 of the Commission's rules to require MVPDs to cease deploying new navigation devices that perform both conditional access functions and other functions in a single integrated device by July 1, 2007.⁶⁰ Section 76.1204(a) already requires MVPDs to cease deploying integrated devices.⁶¹ The *Second Report and Order* extends the deadline from July 1, 2006 to July 1, 2007. To the extent that compliance may require the manufacture and purchase of non-integrated host devices by MVPDs by July 1, 2007, the present action does not impose any new requirements on consumer electronics equipment manufacturers or MVPDs, but rather extends the existing compliance date by one year. We believe that the resulting impact on small entities is favorable to the extent that it provides them with additional time to come into compliance with the prohibition on integrated devices.

The *Second Report and Order* also requires that: (a) by December 1, 2005, the cable industry shall file with the Commission a report regarding the feasibility of implementing downloadable security in set-top boxes; (b) beginning August 1, 2005, and every 60 days thereafter, the National Cable and Telecommunications Association and the Consumer Electronics Association shall file with the Commission reports on progress in bidirectional talks and a software-based conditional access agreement; and (c) beginning August 1, 2005, and every 90 days thereafter, Comcast Corporation, Time Warner Cable, Cox Communications, Charter Communications, Adelphia Cable, and Cablevision shall file with the Commission reports detailing CableCARD deployment and support.

E. Steps Taken to Minimize Significant Impact on Small Entities, and Significant Alternatives Considered. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.⁶²

To the extent that compliance with the amended prohibition deadline may require the manufacture and purchase of non-integrated host devices by MVPDs by July 1, 2007, the present action does not impose any new requirements on consumer electronics equipment manufacturers or MVPDs, but rather extends the existing compliance date by one year. We believe that the resulting impact on small entities is favorable to the extent that it provides them with additional time to come into compliance with the prohibition on

⁵⁹ Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1997 Economic Census, Industry Series—Manufacturing, Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, Table 4 at 9 (1999). The amount of 500 employees was used to estimate the number of small business firms because the relevant Census categories stopped at 499 employees and began at 500 employees. No category for 750 employees existed. Thus, the number is as accurate as it is possible to calculate with the available information.

⁶⁰ See Appendix B.

⁶¹ See 47 C.F.R. § 76.1204(a).

⁶² 5 U.S.C. § 603(c)(1)-(4).

integrated devices. When the original prohibition deadline was adopted, we noted, *inter alia*, that Section 629 includes provisions which may lessen compliance impact on small entities, including Section 629(c), which specifies that the Commission shall waive its implementing regulations when necessary for an MVPD to develop new or improved services, and Section 629(e), which requires the Commission to sunset its implementing rules when certain conditions are met.⁶³

With respect to the reporting requirements imposed on cable operators and consumer electronics manufacturers, we believe that these reports are a critical complement to the extension of the integration ban deadline. We also believe that these requirements are unlikely to impose a burden on small entities. First, the requirement to submit a report on the feasibility of downloadable security applies to the cable industry, but not to individual cable operators. We generally do not expect small cable operators to be actively involved in the preparation of such report. The requirement to submit reports detailing CableCARD deployment and support every 90 days, beginning August 1, 2005, applies only to specified large cable multiple system operators. Finally, the requirement to submit reports regarding progress in the bidirectional talks and a software-based conditional access agreement every 60 days, beginning August 1, 2005, does not apply to individual cable operators or consumer electronics manufacturers. We generally do not expect small cable operators or consumer electronics manufacturers to be actively involved in the preparation of such reports.

F. Report to Congress. The Commission will send a copy of the *Second Report and Order*, including this FRFA, in a report to Congress pursuant to the Congressional Review Act.⁶⁴ In addition, the Commission will send a copy of the *Second Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Second Report and Order* (or a summary thereof) will also be published in the Federal Register.⁶⁵

⁶³ *First Report and Order*, 13 FCC Rcd at 14842.

⁶⁴ See 5 U.S.C. § 801(a)(1)(A).

⁶⁵ See 5 U.S.C. § 604(b).

**STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN**

In the Matter of Implementation of Section 304 of the Telecommunications Act of 1996, Commercial Availability of Navigation Devices, CS Docket No. 97-80, Second Report & Order

Today's decision was a difficult one. The Commission, along with the cable and consumer electronics industries, continues to wrestle with how best to realize the clear Congressional goal of assuring the commercial availability of navigation devices. The Commission long ago decided that cable operators should be prohibited as of a date certain from integrating navigation and security functionalities, in order to promote the competition envisioned by the Telecommunications Act of 1996. Today's action marks the third time we have extended the date of the integration ban, which would have gone into effect in July, 2006. Cable interests would have preferred that we eliminate the ban entirely; consumer electronics interests would have preferred that we keep the ban in place and on schedule.

Given past delays, and even more importantly, the lack of any real alternative to leasing a set-top box for cable subscribers who want access to the latest digital technologies, I was very hesitant to support any further adjustment to the integration ban, absent a compelling reason to do so. While a close call, I believe today's decision provides a justification for a modest extension. We make a strong case for the continued existence of the ban, but decide to postpone it, for one year only, to give the players involved a chance to determine whether a downloadable security solution is feasible, and if so, when it could be implemented. This technology would have costs savings, compared to the alternative of physical separation of navigation and security functionalities, for the benefit of consumers. At the same time, in this item, we require periodic and various reports to ensure that cable operators live up to existing requirements (e.g., one-way "plug-and-play" rules), and that the industries make decent progress toward future goals (e.g., two-way functionalities, software security solution). I thank my colleagues for their cooperation in bolstering some of these reporting requirements. I will be keeping a close eye on the information as it comes in.

I look forward to progress in all of these areas to promote competition and innovation, and, ultimately, greater choice for consumers, as Congress intended.